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# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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# HEARINGS

BEFORE THE

SUBCOMMITTEE ON EDUCATION AND HEALTH

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ONE HUNDREDTH CONGRESS

FIRST SESSION

## PART 1

SEPTEMBER 23, OCTOBER 1, 5, 21, AND 27, 1987

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# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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## WEDNESDAY, SEPTEMBER 23, 1987

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON EDUCATION AND HEALTH
OF THE JOINT ECONOMIC COMMITTEE,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 311, Cannon House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representatives Scheuer and Sawyer; and Senator Sarbanes.

Also present: Deborah Matz, professional staff member.

### OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative SCHEUER. This will be the first day of hearings of the Subcommittee on Education and Health on the subject of "Competitiveness and the Quality of the American Work Force."

We have scheduled 9 days of hearings on this subject because of the extreme gravity of the issue. This nation is confronted with trends, which if not reversed, will threaten and cripple the economic strength and vitality of our nation.

This hearing has evolved in large part because of the concerns that Chairman Sarbanes and I share about the significant problem of functional illiteracy facing this nation. Our country has fallen behind the rest of the industrialized world in promoting literacy and educational achievement.

A recent study by the Department of Education estimates that the illiteracy rate is about 13 percent for all American adults. That is, 13 percent of adults cannot read, write, or count—cannot read a job instruction sheet, cannot read traffic signs, cannot read the menu in the diner, cannot read the directions on a bottle of medicine.

For black adults, the rate is over 20 percent. When you look at functional illiteracy, the inability to perform these essential jobs, the rate goes up to 80 percent for young adults.

Now, these studies are not anomalies. Study after study has revealed a work force ill-prepared to meet the demands of a highly technical and complex, sophisticated industrial society.

In a recent standardized comparative test, American junior high school students scored lower in all but 2 of 13 other advanced, developed countries included in the study.

The scores for high school seniors were even worse, ranking the lowest of the 12 countries' studied, which included Japan, whose junior high school students came out on top, incidentally, France, England, Belgium, and Canada, among others.

This situation is even more disturbing, more serious for our military recruits. We will hear more on this later this morning from Admiral Watkins. According to Army data, in 1981, a staggering 45 percent, or over 300,000 of Army enlisted personnel had reading and math abilities below the ninth grade level; that is, they were reading on a junior high school level, not even a high school level.

Some of them read as low as the fourth grade level. The potential to our military services of a large level of functional illiteracy among the troops, among armed services personnel is unbelievably troubling.

Now, we have had extensive conversations and meetings with experts in the field, and it became apparent that functional illiteracy is a significant economic, social, and political problem that affects the individual's job prospects, family prospect and his potential as a contributing, participating citizen in our society.

Even more important, the adverse impact on business and the Nation's competitive position is so clear and so serious and such a clear and present danger that we must develop practical and workable solutions to this massive national problem.

Unless we develop these solutions, the outlook for our nation's economic health in coming decades is bleak, indeed. Throughout the postwar era, U.S. manufacturing productivity has been growing more slowly than that of its chief trading partners and competitors.

Between 1950 and 1983, a third of a century output per hour of U.S. workers increased by 129 percent, while those of Canadian workers increased 214 percent, French workers increased 458 percent, German workers increased 508 percent, and output of Japanese workers increased a staggering 1,624 percent.

At the same time, since 1975, our trade balance has sharply declined. For most of the century, our country ran a positive trade balance. Our trade balance turned sharply negative in 1976, roughly a decade ago, and continued to grow steadily worse over the ensuing decade, reaching a level of $140 billion at an annual rate last year.

It has become a truism that, for decades, the United States was the world's largest creditor nation. But in only the last 3 years that has changed. We have now become the world's largest debtor nation, with no improvement in sight.

This critical situation cannot be permitted to continue on its current course, for we are truly on a slippery slope. Altering this course involves, among other things, a reexamination of our educational system and its redesign with an eye toward the skill needs of the future.

Of the new jobs that will be created before the year 2000, it is estimated that more than one-half will require some kind of postsecondary education skills, and one-third of these jobs will be filled by college graduates, as opposed to only 22 percent currently.

Virtually every job category will require a higher level of education in the year 2000 than it requires today. The education and skills deficit is, and will continue to be, the driving force behind the decline in our nation's productivity.

In the course of these hearings, the subcommittee will hear from a number of witnesses across the whole broad spectrum of American economics and educational life. We will hear from government officials, educators, scholars, as well as representatives of labor, industry, and our school systems.

The goal of these hearings is to develop a comprehensive legislative agenda which will enable the next Congress and the next administration to take the necessary steps to provide our industries with adequately trained and educated workers and to halt the deteriorating position of our nation in world commerce.

Let me say at this point that I'm deeply grateful to several people who helped make these hearings possible. First, to Marc Tucker, executive director of the Carnegie Forum on Education and the Economy, and his staff, for their boundless energy, enthusiasm, and efforts in setting up these hearings.

Their participation and determination greatly influenced, shaped, and expedited the development of these hearings.

Second, I'm deeply grateful to the committee staff member who was in charge of developing these hearings, Deborah Matz, for her outstanding professionalism, energy, zeal, and determination in making these hearings the thoughtful hearings that they will be.

Finally, and most importantly, I am deeply grateful to the chairman of the Joint Economic Committee, Senator Paul Sarbanes, for his enthusiastic support of these hearings which has made these hearings possible. He gave them his blessing and his constant support, and it's a great pleasure and privilege for me to introduce the Chairman of the Joint Economic Committee, Senator Paul Sarbanes.

## OPENING STATEMENT OF SENATOR SARBANES

Senator SARBANES. Thank you very much, Chairman Scheuer. I'll be very brief. But I'm very pleased to join you today for the first in a series of nine hearings on competitiveness and the quality of the American work force that the Subcommittee on Education and Health of the Joint Economic Committee will be holding this fall.

Not only is this the first hearing in a series, it is also the first hearing of the Education and Health Subcommittee, which was established a few months ago, at the beginning of this Congress, after you and I had consulted at some length about the problems we saw facing the country and how we thought the JEC might address them.

It is very clear from the agenda which has been established in the current hearings that the subcommittee under Congressman Scheuer's leadership, assisted by the very able and dedicated staff, is setting a high standard not only for the new subcommittee but, indeed, for the Joint Economic Committee itself.

In the course of these hearings, and I invite those who are here to review the prospective agenda, a group of remarkably experienced and distinguished witnesses will attempt to delineate the problems we face in our educational system and to propose some solutions to them.

I think we're very fortunate to have as the first witness for the nine part series the very able and distinguished Secretary of Labor, Bill Brock.

He will be followed by some of the leading experts and practitioners in the country—Governors, educators, State legislators, people from both business and labor who concern themselves about this issue.

Education occupies a pivotal role in the economy and society of this nation. It remains the gateway to full participation in the mainstream of American life.

Over the years, it has thus served the national interest at the same time that it has enabled Americans of very different backgrounds to develop their own individual skills and talents, to define their own interests and, over time, to realize their aspirations.

The pursuit of personal objectives has worked to the benefit, not to the detriment, of the prosperity and security of the Nation as a whole.

By and large, we have recognized our interest as a nation in assuring the broadest possible opportunities for the best possible education for all Americans.

The Morrill Act of 1862, which established our land grant institutions, and the GI bill in 1946, which opened the door of our colleges to millions who otherwise would have been unable to enter, are dramatic cases in point.

They are landmarks of enlightened national policy, so totally accepted as to be taken for granted.

The question of access to education and quality of education are especially acute today for several reasons. One is the growing complex and technical nature of our economy and of the jobs in it.

Another is our entry as a nation into a world economy we can no longer dominate and from which we can no longer isolate ourselves.

Another is our failure for reasons which these hearings will explore to keep pace in our schools with standards of achievement which other industrialized countries are meeting.

Another is the transformation of the old saw, that learning is a lifetime proposition into a new reality. Training and education opportunities must be an integral part of an education program that will serve the Nation's needs effectively and efficiently in a changing international economic environment.

Mr. Chairman, over the next several months the Joint Economic Committee will be looking at other areas to identify the prudent investments necessary to assure the Nation's future economic strength. In addressing the urgent questions of education and training, your subcommittee's work is really the pathbreaker in this effort of the full committee. I expect it to make a very important and significant contribution to the public record and to the development of public policy.

And I'm very pleased to be here this morning to join you as these very important hearings get underway.

Representative SCHEUER. Thank you very much, Mr. Chairman. I want to reiterate my gratitude to you for first having set up this subcommittee and for giving me the honor and the privilege of chairing it. I also want to thank you for your support of a remarkably long set of hearings which absorbed a great deal of energy and talents of our staff.

I'm very grateful to you.

I would like to recognize the presence of Congressman Tom Sawyer of Ohio, one of the very most promising junior Members of Congress.

Tom, we're delighted you're here. If you'd like to say a word, you are more than welcome to.

## OPENING STATEMENT OF REPRESENTATIVE SAWYER

Representative **Sawyer**. Thank you, Mr. Chairman. I'm not going to make a long opening statement, but I'd like to reiterate the thanks that Chairman Sarbanes offered for the work that has gone into putting together these hearings.

I suspect that no arena of domestic investment in this Nation holds greater promise for defining our ability to shape America's role in the coming century, nor to choose the kind of future that will reflect the legacy of excellence that is, in fact, the legacy of the United States.

We have the capacity. We have the will. And, with your leadership, we'll do it.

Thank you very much.

Representative **Scheuer**. Thank you very much. We're delighted that you're here and we look forward to your full participation.

We are happy to welcome the Secretary of Labor, and a former distinguished Member of Congress, Bill Brock. We're also happy to welcome the Assistant Secretary of Labor, Roger Semerad, who is also a seminal voice in this area in skills training.

Both of you have appeared before this committee in prior months and years. Your thoughtfulness and sensitivity to a wide range of issues facing our country in our efforts to achieve a productive, literate, and effective labor force are well known and well demonstrated by your activities.

So it is a special pleasure for us to welcome both of you back here.

Mr. Secretary, why don't you start off and we'll ask Assistant Secretary Semerad to say a few words when you're finished. And I'm sure we'll all have some questions.

## STATEMENT OF HON. WILLIAM E. BROCK, SECRETARY OF LABOR

Secretary **Brock**. Well, thank you for having me here, Mr. Chairman. I'm not sure that there is any more important work going on in Washington today than what goes on right here in this room.

I really believe in the task you have set for this committee and the urgency of beginning to address some problems that are really fundamental about the state of American education and training systems, and the state of our competitive circumstances and the prospects for our competitive circumstances.

If you recall, Mr. Chairman, you were gracious enough to have me before this committee a bit over a year ago. We talked something about the issues then, and I made a number of points.

I think the most important thing to start off with is that what we talked about then is even more valid today. The data we have accumulated for about the last 15 months continues to demonstrate the validity of the points made in our discussion of last year. And I think there are some very clear indications of what we have to do in the future.

If you remember, we talked about the one word which characterizes this nation now and in the foreseeable future. That is the word "change." And that's true. Every possible indication shows that it is.

We simply have to think about what that implies for us as a people, as a society in terms of both our legislation and our practices. We have started in the Department of Labor with a program called Work Force 2000. We have contracted with some remarkably intelligent people to prepare a study called Work Force 2000: Work and Workers for the 21st Century.

And I am so committed to trying to make some changes that we have established as a follow-on organization in the Department of Labor a new office, which is our Work Force 2000 project office, to try to work with labor, industry, and Congress and the others in government to ensure that people are aware of these trends and what they imply for us, to take advantage of what I think is a unique opportunity to deal with some problems that this country really hasn't practically dealt with in the last several decades.

We do have to anticipate and prepare for change by enhancing the skills of our workers. And that's going to take the cooperation on all our parts. It's going to take on the problem of workplace illiteracy. It's going to take, I think, a commitment to make its resolution a national priority.

It's going to take coordination of Federal, State, and local resources. It's going to take labor/management cooperation. It's going to take the commitment of employers and individuals to invest more in education, both in school in the formal sense, and, as Senator Sarbanes mentioned, in the continuing sense.

It's going to take an understanding of the needs of the family in a changing work force, the pressures and new burden that are being put on the family because of the fact that women are not only working, they're going to continue to work in increasing numbers. That puts stress upon the family, upon the children and we have to adapt to it, accommodate it and make it possible for people to be productive without jeopardizing the well-being and education and growth of their children.

It's going to take a greater, more effective effort to facilitate the movement of displaced workers into new jobs, new opportunities. And it's going to take an effort to protect and improve retirement programs and benefits, and efforts to improve workplace health and safety.

And we have to find ways to better integrate women, minorities, the disadvantaged, the handicapped, and veterans into the work force.

We're going to need those people. We're going to need the talent that they bring. And we are not giving them adequate opportunity today.

I guess it was almost 2 years ago that, within the Department of Labor, I created a task force on economic adjustment and dislocated workers that worked with us on occasion, and we took their recommendations and drew from them the conclusion that we simply had to do a better job for the training of people who are dislocated by the economic change that affects our economy and will continue to do so.

And we proposed to the Congress A Worker Readjustment Program that I think is really interesting because it doesn't try to predicate its response to human need on the basis of why they got there, but on the fact that they are there. It doesn't matter why somebody is out of work, but the fact is they don't have a chance to get reemployed unless they are given the skills to work in the jobs that we have created in this country.

We've tried in the presentation of this program to link it very closely to the unemployment insurance program. We have to work with the States. We have to ensure that, in contrast with some past efforts, that we focus on the training, not income maintenance; because we want them to support themselves. They don't want to be supported.

We also try to stress the need for prompt intervention so they can get back to work very quickly before they become so depressed that their emotional well-being is at risk.

We're also trying to keep it as flexible as we can so that we can target our resources to those areas where we have the primary need.

We've proposed to the Congress in the welfare area the targeting of our resources to the welfare youth, especially intensive training for them. A JTPA type of approach.

I guess two things I'd like to conclude with. One, I think it's awfully important that we enter into this kind of conversation aware not only of our problems, but of the strengths that we bring to the task.

We have an incredibly strong country. We will in a month be in the longest peacetime expansion that the Nation's ever had.

We will have seen in the last 5 years almost 14 million new jobs. We'll see the highest percentage of Americans who have ever worked. We're going to see the economy in which the only category of jobs that have declined in number is the category at or near the minimum wage in the low-skill area. The category of good jobs has increased, and the increase is over 50 percent.

We will see a society in which industrial production is at an all-time high and in which our productivity improvement for the last year has exceeded that of any other industrial nation.

So we're doing better than other countries. We see an economy in which median family income rose after inflation 4 percent last year, the biggest jump since 1972.

So we have essentially a healthy nation with which to address the task. I think that the problem is that we have a lot of catching up to do because we haven't paid attention to the fundamental underpinnings of this healthy economy for far too long.

Look at the fact that, as Admiral Watkins and others will testify, I'm sure, later on, as you mentioned yourself, Mr. Chairman, that there is a significant, functional illiteracy problem in this country, functional in the sense that the skills that are being given to our children in schools do not relate to the skills that are required in a high-technology environment.

So it doesn't matter, according to the statistics, that they can only read at the ninth grade level. What really matters is that they can't read an explanation of how to apply for a job. They can't read a bus schedule or an airline schedule, or a train schedule so they can find out how to get to a job.

It is absolutely terrifying to see the data on the lack of knowledge of our kids coming out of school. And I'm not talking about the dropouts. That's a fundamentally important problem in and of itself. Almost 30 percent of those who enter schools don't finish. But, even of those who finish, they're not being prepared for those kind of jobs.

As you well noted in your opening statement, the overwhelming majority of new jobs are going to require postsecondary education. And if our kids are coming out of school reading at the ninth grade level with a diploma in their hand, how do we expect them to hold those jobs.

Not only is it insane in terms of those individuals, because it's insane for the society, we're going to leave our people without the kind of skills that are going to be needed to hold a job in the United States.

If we don't change, we're going to have to import those people, Mr. Chairman, because they're not here, unless we take the 23 million functional illiterates in the United States and teach them to read and write, in which case, we have a brandnew pool of workers who can fill those jobs.

Unless we start giving our kids flexible, competent education in our schools, they just aren't going to be able to hold those jobs. And that is crazy. Crazy for the country, crazy for them, and just stupid on our part.

We really have some major changes to undertake. I think what you're talking about in this hearing is so critically important to the well-being of this country that I wish everybody in the Congress were here to talk about it.

Thank you.

[The prepared statement of Secretary Brock follows:]

## PREPARED STATEMENT OF HON. WILLIAM E. BROCK

Mr. Chairman and Members of the Subcommittee:

I am very pleased to have the opportunity to testify before you today. The issues of competitiveness and its implications for the American workforce have become the topic of much study and debate in the private sector, in the Congress, and in the Executive Branch. Rarely a day goes by when these issues aren't front-page news.

As you know, a little over a year ago I testified before you and the Subcommittee on Economic Resources, Competitiveness, and Security Economics and discussed the demographic and labor force trends and their implications for the next decade. I won't repeat much of the detail of that discussion, but I will note that over the last year further study has confirmed these trends and we have undertaken significant efforts to inform the American people about them in the hope that we can start to prepare for these profound changes.

In assessing the state of the workforce and the challenges we face in the years ahead, we should acknowledge that we have an excellent record on which to build. In the past five years, we have created a record-breaking number of new jobs that have made the United States the envy of the rest of the world.

Legislatively, we have established a new framework for the delivery of improved employment assistance--the 1982 Job Training Partnership Act (JTPA)--which is exceeding our expectations. In addition, just last year we enacted amendments to the JTPA strengthening its role in providing the literacy skills workers need to find and hold productive employment.

But much more needs to be done. Today's labor market is experiencing major changes, changes which are clearly affecting our productivity and competitiveness. As I highlighted in my previous testimony, these changes include a rise in the average age of the workforce, a declining number of younger workers, an increasing proportion of the workforce consisting of women, minorities and immigrants, a continuing shift to the service sector and a need for higher skill levels.

In an effort to deal with and anticipate future changes, to understand them and plan for them, we have launched a program at the Department of Labor which looks ahead to the year 2000. We've chosen to call our mission the WORKFORCE 2000 Project. The name symbolizes the collective goal of labor, industry, academia, and government to assure decent jobs and a decent society for all Americans. The Project is intended to provide an integrated and comprehensive plan of research, interagency cooperation, private sector partnership, and resources. It is a plan with ambitious goals.

As part of this effort, a study entitled Workforce 2000: Work and Workers for the 21st Century was recently released and is now available to the public. The study was prepared by the

Hudson Institute and funded by a grant from the Department of Labor. This study documents the major labor market trends and illustrates how the confluence of these trends in the year 2000 poses serious problems and opportunities.

In addition, because I feel so strongly about this effort, I have established a new office in the Department of Labor: the Work Force 2000 Project Office. This Office will conduct an active outreach and dialogue with labor, industry, academia and government to assure that decisionmakers and interested parties are fully aware of these trends and their implications. We also hope to stimulate actions, with the support of other organizations and institutions, to take advantage of the unique opportunity these trends offer to enhance our economic competitiveness and address some long-standing social problems.

In very broad terms, our objective in this Project is to anticipate and prepare for change by enhancing the skills of the workforce. To achieve this objective, both the public and private sectors have key roles to play, such as: make workplace literacy a national priority; coordinate federal and state resources; encourage labor-management cooperation; encourage employers and individuals, when appropriate, to invest more in effective education and training; respond flexibly to the needs of those who must balance the demands of work and family; facilitate the movement of displaced workers to new jobs; protect current and future retirement benefits; review workplace standards on health and safety, and work rules; and better integrate women, minorities, the disadvantaged, the handicapped, veterans and new immigrants into the workforce.

The Administration has also proposed some significant initiatives to the Congress that are designed to enhance the development of skills and contribute to this country's competitiveness.

One such proposal addresses the problem of dislocated workers. As you may know, Mr. Chairman, in late 1985 I established a Task Force on Economic Adjustment and Worker Dislocation. This group was comprised of representatives of industry, labor, government, academia and the private economic research community. Subsequent to the issuance of the Task Force's report, early this year the Administration submitted to Congress, as part of its comprehensive competitiveness package, a proposed Worker Readjustment Program (WRAP) that embodies the spirit of the report. WRAP is a $980 million program aimed at providing increased training and placement for dislocated workers.

This proposal, a version of which is incorporated in the omnibus trade bill currently in conference, is based on a set of principles which we are convinced must be reflected in any new legislation to help dislocated workers:

- First, the program we have proposed is comprehensive and covers all workers regardless of the cause of their dislocation;

- Second, there are close linkages to the Unemployment Insurance system;
- Third, the program stresses prompt delivery of adjustment assistance and training to speed adjustment--as opposed to income support, which can deter and slow adjustment; and
- Fourth, it provides flexibility to target resources to areas where dislocations occur, and flexibility to move resources to those areas as quickly as the need arises.

Another initiative included in the Administration's competitiveness package is the AFDC Youth Initiative. This proposal would add an enriched program option of employment and training for AFDC youth to the current Summer Youth program under JTPA. Under this proposal, local service delivery areas would be allowed the option of using funds available under Summer Youth to provide a comprehensive, year-round program of intensive services to this seriously at-risk group. I believe that the package of education, job training, counseling and employment services offered by this program would make a significant contribution in helping participants overcome the multiple barriers they face to successfully entering the workforce.

In closing, Mr. Chairman, I would like to say a few words regarding the quality of the jobs this nation has produced in recent years. As you know, the popular media has been replete with articles denigrating their quality. There have also been some studies that have suggested that a disproportionate number of new jobs being created in the country are of a low-wage, dead-end character.

This is simply not the case. An op-ed piece by Janet Norwood, Commissioner of the Bureau of Labor Statistics, which was published in the New York Times on February 22, points out some of the shortcomings of these studies. These shortcomings prompted us to examine these issues more closely. We requested the American Enterprise Institute to conduct a review. Their study, just released today, which was prepared by Dr. Marvin Kosters and Murray Ross, concludes that there is a downward trend in the low-earnings share of employment and an increase in the high-earnings share.

I would also like to call your attention to some relevant economic facts. The current economic expansion will soon become the longest period of recession-free growth in U.S. history. Over this period the nation and the American worker have achieved significant progress:

-- almost 14 million new jobs have been generated, over 90 percent of them full time,

-- the percentage of the population over age 16 that is employed has mushroomed to a record high 62 percent,

-- jobs paying $10 or more per hour have increased by over 12 million, while those paying $6 or less per hour have declined by over 4 million,

- -- Industrial production is at an all time high and growth in U.S. manufacturing productivity is outpacing our leading competitors,
- -- Median family income, adjusted for inflation, rose over 4 percent last year, its biggest jump since 1972 and is up almost 11% since 1982.

This is a picture of a healthy and dynamically growing economy.

As we continue this dialogue on competitiveness it is important not to lose sight of the fact that the American economy today is, in perspective, very solid. We must take the appropriate steps now to guarantee that the American worker of the future will be the best in the world--the most productive, the best educated, the highest skilled, the most flexible, and the most competitive. Our task, as public servants, is to identify and address those areas in need of corrective action, and to continue to build on the strong foundation that our nation has achieved.

Representative SCHEUER. I thank you for your statement. I, too, wish that we weren't all pulled and tugged in so many directions. That would permit full attendance at this hearing. These long-term problems—this isn't all that long term, there's a quality of immediacy about it—but these long-term problems can't compete with the fires that every Member of the House and Senate are putting out every day.

But I thank you very much for your predictably thoughtful and eloquent testimony.

Assistant Secretary Semerad, would you like to chat with us for a few minutes?

## STATEMENT OF ROGER D. SEMERAD, ASSISTANT SECRETARY OF LABOR FOR EMPLOYMENT AND TRAINING

Mr. SEMERAD. Thank you for the few minutes. I'd like to add my compliments to you and the committee for holding these hearings, and for also continuing their process of awareness in education.

I think the Secretary and I talked last year about a change in conversation in this country. I think probably more than anything else, people have to embrace that idea that the conversation is changing enthusiastically.

We are very good trainers in America. We're probably the best. And the questions and problems that face us really are problems of opportunity, problems of political will.

I think that I would only add to the Secretary's remarks in saying that probably our greatest frustrations since we last talked have been the institutionalized resistance and reluctance to even engage in the possibility of talking about policy change or the reallocation of resources.

Probably, one of our great challenges is not to get in a position of creating Federal programs or policies that in turn act as further barriers to change, to further cement the existing systems in place that were created in the wildly successful industrialization of this country.

Now we're moving into a very rapidly changing economy. I'd only say that on our Work Force 2000, the report of the Hudson Institute, is now out and receiving enthusiastic response. We are now moving the agenda into a whole new set of very interesting problems, starting off looking at the new realities of the fastest-growing companies in this country. These observations already, at least in the initial stages, have been rather startling.

We are examining why it is these companies are growing so fast and how they are participating in a fully integrated world economy which the United States has not controlled. I think that will be the starting point.

But a lot of our emphasis will be on the follow-on venue for Work Force 2000 that deals with employment security issues, the changes that are inevitable, the changes in child care, elder care, literacy, worker agility, and those things that we talk about.

But we need more knowledge and we need to talk more about what it really means. We don't want to mislead anybody on this. It is obvious that the rest of the world is not going to wait. I think we're all aware of that. Our competitors probably would be delighted if we take a long time learning how to address the situations that we have.

And I think, as the Secretary points out, we have great strength in this nation. And we have great capacity and resource to achieve the necessary goals.

The question really in my mind is: Do we, as a nation, have the will to impose the discipline and ask the hard questions and get on with it?

I appreciate being here, Mr. Chairman. Thank you.

Representative SCHEUER. We're happy that you're here.

I'd like to use the chairman's prerogative and yield to Chairman Sarbanes.

Senator SARBANES. Mr. Chairman, I'll be very brief.

I'd like, first of all, to commend the Secretary for his statement, and even more to commend him for the initiatives which his Department has taken.

I'm very frank to say to you, Mr. Secretary, I think you're one of the few Secretaries and one of the few Departments who has managed to somehow get out of the daily routine and look ahead a bit in terms of where we're going and what the problems are, and to develop a strategy to address them.

Therefore, I particularly welcome this Work Force 2000 initiative, including the establishment of the office within the Department to focus on it.

It's also the case, of course, that your efforts have paid off in very concrete terms because you've been willing to take a tough-minded, pragmatic look at the problem and address it. The Job Training Partnership Act is one reflection of that. Let me just ask about it.

As I understand it, it is administered by the States. I wonder whether you've been able to monitor their performances in such a way that you could tell us which of the States have been the most innovative and effective.

If you'd like to go back and look that over and submit it for the record, I'd be happy to have you do that.

Which States should we cite as examples of effective administration of that job training block grant?

Secretary BROCK. Actually, I don't know. I'd like Roger Semerad to respond because he has the direct responsibility. But most of the management of the Job Training Partnership Act is through the private industry council at the community level. And, frankly, I think we've seen more community creativity than we have State creativity.

Maybe Roger would like to disagree with that, or qualify it a bit. But, my own judgment is that it's very difficult to pick a State because most States have some communities that do better than others.

It pretty much depends upon the quality of the people who administer the program at the community level.

Is that a fair statement?

Mr. SEMERAD. Yes. I think, Senator, that trying to make an evaluation of which States would be not only unfair, but we've found, as the Secretary points out, that in each State, there are communities that are doing really very innovative kinds of things, depending on the level of integration of services being provided and, again, the political and bureaucratic will at the local level that says we need to link all of these up.

We are encouraged all the time as we see programs, private industry council programs, community programs, and other kinds of State leadership that integrates the programs, so that available resources are targeted where it's needed most and the results are effective.

And I think, really, when you look at it, probably what they have in common is they have a good linkage with the business community, the educational community, including the voc ed establishment, the employment security agencies, everything linked up to provide the initiatives and the assistance to those people to use the taxpayers' money wisely and target it well.

Senator **Sarbanes**. Let me ask this question.

I noticed, in taking about the Work Force 2000 project office, you indicated that one of its assignments is to make people fully aware of the trends and their implications with respect to the Job Training Partnership Act.

How effective are we in communicating across the country the successful lessons to be learned from the private industry councils that have been most successful?

Sometimes we become concerned that it's being done well in certain places, but other places are not doing as well, aren't learning about it and, therefore, aren't able to draw the lessons.

Secretary **Brock**. That is a very important point. I think one of the frustrations I've had is, when I've been in government, when you see a good program, it's very difficult to transplant it.

We were trying to do that in two ways. One, through our regional offices, we have a conscious, continuing effort to take good ideas from one area through our regional staff out into other areas and say: Here's something that worked in Cincinnati, you might want to try it in Cleveland or Toledo, or whatever.

And that's the direct governmental way. But, maybe of even greater consequence, last week, we had the National Alliance of Business meeting here in Washington. Roger Semerad spoke to them; I spoke to them. But these are the people that comprise the base.

The National Alliance of Business is the national organization which has to get people in the private industry councils to generate support. And I guess the best single resource we have for cross-fertilization of some of these ideas that demonstrably work in certain areas is that association, the national organization, that can bring together all of those people from all across the country at least once a year.

We have an annual meeting with the private industry councils once a year. It's an effort to cross-fertilize good ideas and have people come in and say this works for me, or this didn't work.

So, you can synthesize those things which are best.

Senator **Sarbanes**. How cooperative and responsive have you found industry and labor to be in your efforts directed at job training? Are there any obstacles that you seem to encounter that need to be addressed?

Secretary **Brock**. I think they are wonderfully cooperative in general. Business and labor both are seeing the imperative of getting people into job education and training. And we're getting good support.

If there is a problem, it doesn't lie in the absence of desire, but rather in the sense that they can just simply add resources to continue doing the things the old way.

I think we do have a problem in this country with education, voc ed being an example; the employment service being another example, where we've done things, as Roger Semerad has said in this remarks, for an industrial society.

Therefore, we did them in a certain pattern. That pattern really does not apply so much any more. Our apprenticeship programs need to be upgraded substantially and redirected to different kinds of opportunities that exist out there.

The same thing applies for vocational education, training programs, those programs run by business and labor. It doesn't do any good to train people to be better skilled if the skills are disappearing. You have to train them for the new skills.

That's where we need to convince people that investing a little bit more is in the longer term, a better investment.

Senator **Sarbanes**. Have you encountered resistance from the educational establishment—Federal, State and local—to efforts to redirect our thinking on the question of skills?

For instance, the Federal Department of Education really hasn't talked very much about the need of the work force. To the extent we're coming to grips with this problem at the Federal level, it's really taking place in your Department, even though it's arguable that the Department of Education ought to have equally as high an interest.

I was wondering, carrying that a step further, whether also at the State and local level, you are encountering any resistance to shifting to new ways of thinking to address the new realities.

Secretary **Brock**. First of all, the first thing I had when I became Secretary of Labor was to invite the then Secretary of Health and Human Services and the Secretary of Education over to lunch.

I said, "I really don't know how I could do my job without working closely together with you. In the past, these Departments have not had much coordination and not much communication. I know I need a lot of help. Would you work with me?"

I got that assurance and we have tried to develop a coordinated approach to problems. Otis Bowen and I, ever since he's been there, have coordinated and we really do appreciate the support we've been given by his entire Department.

We visited the Department of Education more recently with the cooperative efforts in the illiteracy area. Clearly, there's a relationship between their efforts and ours on the literate work force.

But, in all candor, Mr. Chairman, while I think those efforts are a start, the educational establishment in this country, the bureaucracy that exists out in the field where it counts at the State and local level, is, in most areas, highly resistant to and reluctant to change.

And I really get bone tired of it. I really and truly do. I've heard more gall-durned stinking, lousy, cheap, petulant excuses about why we can't do something from some of these people than I can count. It just drives me up the wall because these are our children we're talking about, and there really is no excuse for what we are failing to do.

So, I think we should train them to be productive as human beings. It's the old story. There's a man in the educational establishment whom I enormously respect. He's Al Shanker.

Yet, I don't know that I can paraphrase him appropriately or accurately. But he says something to the effect that:

If we're going to compete with the Japanese, you don't take the oldest plant in the GM system and simply turn it on and double the number of employees and put more grease on the old machinery. You have to get some new equipment in there. You maybe have to build a new plant, but you certainly don't take what you have and say, let's just increase the amount of grease we put on the wheels.

And that's paraphrasing, but it's an appropriate analogy. We have to rethink the educational system in this country, and I think that's a major concern.

Senator SARBANES. What do you think such a rethinking would lead us to do?

Secretary BROCK. I think it would lead us to take some steps to give kids who begin school the incentive to stay with it. We bring kids in, and again I'm paraphrasing people like Al Shanker, but we take a kid and say, if you're 6 years old, you can go to school—if you're six years old, whether you turned 6 yesterday or 6 a year from tomorrow. But that's a 1 year difference. That's a 20 percent difference in age. That's an enormous difference. Or a 16 percent difference. That's an enormous difference. Then we tell all those kids: You have to sit there in a classroom and listen to a teacher lecture. One thing we've learned is that the attention span of kids since television came into this country is very, very short. We haven't really adapted to that. We're trying to say that all kids are the same; they're not. So, if we teach them all the same at the same pace, you're going to end up with a lot of kids getting the impression that they're stupid. And frankly, the system is almost set up to be sure that a very substantial number of them are convinced that they're stupid.

So their task is to find a way to get out of the system as quickly as they can, without getting any further insulted.

They may be a very different kind of person who just needs a very different approach. But we turned to mass production in education instead of trying to do the job treating kids as individuals.

The idea that we can change our teacher training program, have the master teachers with teams of people supporting those master teachers, each talent being applicable to a different kind of child, in a different way, so that you could motivate children to lend their talents, to use their talents to the fullest.

That idea is a very exciting idea to me. And all I see is resistance from a lot of the education bureaucracy to anything, any concept like that. We fought about it in the Tennessee Education Association right down to the last firecracker.

You just wonder what is it. I guess what I don't understand, Senator, is people who are defending what we have. And what we have is a system that's turning out 40 percent of our kids with diplomas in hand unable to read at the ninth grade level; 95 percent of our kids who come up with diplomas in hand that can't even read an airline schedule; 50 percent of them never heard of Winston Churchill; 50 percent of them never heard of Stalin; 50 percent don't know who Adolf Hitler was; 50 percent of them can't identify which century the Civil War was fought in.

My gosh, what are we defending?

I think it's outrageous.

Senator SARBANES. Is there a depository in the Department of Labor that is up to current standard on what other countries are doing in this area?

Secretary BROCK. I'm not sure whether we have it, but there's a lot that indicates that the United States is not performing up to par.

I think one of the more classical ones was the mathematical comparison where we ran 14th in the world. I think the only country that we were ahead of was Hungary.

Senator SARBANES. Which countries do we perceive as doing a particularly effective job in this area?

Secretary BROCK. If you want an honest answer, I think educators would say that Japan probably does the best. I'm not sure that I agree with that.

Japan is teaching their children very well in rote learning. What I think people would call linear thinking.

I do not believe that they are doing a very good job, or even a competent job in other categories of education. But they certainly are doing a remarkable good job in that area, and particularly in mathematics and science.

Germany probably does the best job in terms of vocational training. I don't think we can emulate them either.

I'd rather teach people what I think is the prerequisite to the coming job market, which are cognitive skills. They would have to be flexibly applied. You have to be able to read, write and think, communicate and calculate in the future.

I don't think we're doing a very good job in any category. I don't think we're even approaching an adequate job. Let's put it that way. I think we have a failed system. If you look at the ACT scores on average in the United States, the average American student takes an ACT test and scores 51—51 average. He's a senior in high school.

Senator SARBANES. I gather the West Germans have a very extensive training and retraining program for their workers, the West Germans, including 2 years, if necessary, of full-time education, training, and retraining of their work force, which is quite an extensive program.

Is it our perception that that works well?

They seem to credit a lot of their economic success to that program.

Secretary BROCK. I don't think there is any question that it works very well.

Where we are failing, Senator, is not just in the front line process of basic education in the formal sense, but we are going to see incredible changes, and those changes are going to bring on a very keen dislocation as companies go through the trauma of changing consumer preferences, trade dislocations, or simply just management error.

We today are not getting those workers back to work fast enough, giving them enough of the new kinds of skills that they need.

We have before you a proposal which has been incorporated by the Senate in the trade bill which would allow a worker up to 2 years training. It is patterned in that sense after the German approach.

Senator **Sarbanes**. That is the WRAP?

Secretary **Brock**. The WRAP program. We have asked for $980 million for it. It is triple the resources we put into worker adjustment presently.

Representative **Scheuer**. Congressman Sawyer.

Representative **Sawyer**. Thank you very much.

Going back and forth between the votes in here, I missed much of the question and answer that took place. But let me go back to the point that you were on, Mr. Secretary.

The WRAP program deals with the readjustment of workers once displaced from the workplace itself. It seems to me that much of the training that goes on in the workplace, whether it is retraining or replacement training that goes on in the workplace itself, tends to be for task-targeted skills, the kind of billing to meet specific needs in a particular workplace.

That is completely understandable, particularly understandable at a time when the competitiveness of any single industry is the ability to show adequate return immediately. The kind of training that would not only be in the long-term interest of a particular business but an entire work force, the kind that is not task specific, is an investment that many employers would seek to make except for the fact that it shows such a deferred, quantifiable benefit to the company.

How can we overcome that so we are not so much in the next century not so frequently seeking to replace displaced workers, but rather have a work force that is in itself flexible and adaptable to changes that occur?

Secretary **Brock**. That is the question, absolutely. There is a lot of things.

First of all, we have asked for your approval on worker adjustment. We have training that will run anywhere from 2 weeks to 2 years, and we can run from basic literacy all the way up to advanced computer.

In terms of the displaced worker, you are talking about a more fundamental question. What we really need to do is invent some way to convince business and labor both that a constant upgrading of their workers' skill levels is in their interest. While it doesn't appear on the corporate balance sheet next quarter, it will over a period of time help maintain a competitive edge or acquire one.

I think that is what part of our Work Force 2000 Project has got to do. We have got to communicate the urgency of that task. There are an awful lot of businesses that are now asking the right questions and an awful lot of them are trying to do the right things.

One of the nicest things I have seen in my 25 years in public life is the tremendous exercise by ABC Television and Public Broadcasting to convince the American people that we can do something about literacy. Project Literacy, this is a fantastic exercise.

I saw a movie called "Bluffing." It was on television only last week. Wow, what a movie that was. It really moved me.

It helps because in the literacy area if a country really does want to give its workers the ability to read and write, the problem is identifying them because no illiterate wants to tell you that they can't read and write. They are scared they are going to lose their job, and this movie will help allay that fear.

But businesses are beginning to invest. They are beginning to say if it is literacy you need we will provide it. If you need a GED high school equivalency, you have it. We will fund it. If you want to go on to advance your education on your time, we will fund your education classes at night.

An awful lot of American businesses are doing that. I think the tax system helps. Maybe we can think about ways to further increase incentives, but the most important task is just to convince the American education system that we don't have any choice.

We really don't have any choice. We are going to be out of people, and it isn't going to be a long-term problem. As Senator Sarbanes says, this is something that is going to happen in the next 2 or 3 years.

Representative SAWYER. Mr. Secretary, you touched on something here that I think is enormously important, and you touched on it in your testimony as well.

We are talking about the competition between American workers and those of other nations who have, at least in fundamental terms, caught up and in some cases perhaps even surpassed what we have traditionally meant by literacy.

Literacy, I suppose, 50 years ago was the ability to read and write in the most basic sense and to work the wrench with which to operate the tools in the plant. Today it is a very different matter.

How do we keep pace with that changing definition of literacy? How do we compare ourselves with other nations, and what do we mean today, what do we mean 10 years from now by a literate work force?

Secretary BROCK. What do we mean is the simple ability to read and write. That is the easy part of it. What we mean is the ability to see and understand and compute in your own human terms.

I can't tell how many people my age are having trouble figuring out how to work the VCR's that are coming on the market these days. The kids can do it.

Representative SAWYER. Not just your age, Mr. Secretary.

Secretary BROCK. But I want to tell you, I went to one of these discount houses a couple of weeks ago, and I am telling you they have come up with a fantastic device. When you go to the supermarket and you put your bag of groceries—you know, your bag of jelly beans or corn—and slide it across, the light reads that little bar on there and it tells the computer and the cash register not only what the price of it is but what the weight of it is, what the brand name of the product is, and everything. So, the inventory is automatic.

Fine. I am told that TV Guide is going to come out with a bar chart on the television programs. I know that there is a VCR on the market that has a little pencil and you run it across the bar chart and then you point it at your TV and it will program the VCR to record, when you are out in Chicago, "Murder, She Wrote" at 8:00 o'clock next Sunday night, and that is all you do. You run across the little bar in TV Guide, you point it to the TV, and that is it.

But you see, you still have to be able to read the instructions, and if you can't read the instructions, you haven't got anything that does you any good at all. You pick up that pencil and it won't write. It doesn't have any utility as far as you are concerned if you can't read the instruction book.

That is functional illiteracy. It relates to the task at hand.

And when 5 percent of our students can read a train schedule or an airline schedule and 95 percent can't, I wonder if the functional illiteracy rate is, as some people say, 5 percent or 95 percent.

I just think this country has to rethink the whole concept of functional illiteracy, being able to relate to the jobs in today's market and being able to acquire the skills so that you upgrade yourself to relate to the jobs 5 years and 10 years and 15 years from now.

That is functional literacy, and that is a very different concept from the basic ability to read and write—as Admiral Watkins says, to be able to read the sign that says "Beware of jet blast."

Representative **Scheuer**. Mr. Secretary, you have been generous with your time, and we appreciate it.

I'd like to ask you how you perceive the Federal role in training and retraining and whether you can envision a joint venture with the Department of Education.

I must say, in all frankness and with due respect, they seem to be less committed and less involved in the problems of the future of the American work force than you are.

Is there some possibility that if you perceive a Federal role, there might be some kind of sharing of that Federal role with the Department of Education in terms of joint design and management of these programs, and perhaps most important a joint funding of these programs. This would involve a real sharing and a real partnership between your very enlightened Department of Labor and the Department of Education, which seems a little bit retrograde at this point. Is this possible?

Secretary **Brock**. I would love it. It would be wonderful and exciting and productive.

I really don't think I have any differences with Bill Bennett on what he says about the need to reform education. I have enormous respect for him as a human being, as a thoughtful person who understands where this problem is.

He has a different set of problems over there, but the fact is that I think not just Bill and I have to be concerned about these problems, but Bill and I and almost everybody else has to be concerned.

I want to tell you Cap Weinberger has a problem coming, or his successor does in the Pentagon if we don't do some changing in this country.

The Department of Transportation, the Department of Energy, I think the Department of Interior, I can't think of a department that doesn't have a stake in all of this.

It does not seem to me that maybe we in the Department of Labor can play a catalyzing role by looking out, as we have 13 years, to say, folks, we have an impending crisis in this country, we simply have to come to grips with it now. There is an urgency about this that we cannot overstate. We have just got to sit down and work together.

And it does require an aggressive, positive, active Federal leadership role to get this country thinking about this. We are not going to solve all the problems in this government. We know that. We have only 6 percent of the money for education coming out of Washington; 94 percent is coming out of the States.

But the Labor Department does not have a stake in it, and I think what we have been saying all morning is that education is not something that happens in the classroom. As a matter of fact, unfortunately, it certainly doesn't happen in the classroom. That is the problem.

Education has to be something that is a lifetime process. We just have to find a way to constantly think about upgrading our skills, our intellectual skills, our competency skills, our functional literacy in order to be productive in this changing society.

That means from preschool all the way through to retirement. These ideas that people should stop training at the age of 45 or 50 are just out of sync with the world we have to live in. We are going to need people staying in work longer, and we have to train them at 50, 55, or 60 to hold independent jobs because they are capable of that, and they want to be productive, and there is no reason they shouldn't.

Representative SCHEUER. One last question that really flows from that.

You mentioned that in many cases, for reasons that are hard to identify—I am not finger pointing or blaming anyone—some kids haven't really connected with the learning process in formal education institutions.

Do you feel that for those kids who for some reasons haven't connected, who have been turned off, there is a major role for education and training at the workplace?

Secretary BROCK. Yes, sir.

Representative SCHEUER. Do you think there is a major role for the Department of Education and the Department of Labor to act together, as a team with business and perhaps local school systems to design and support and promulgate such programs across the country? Do you feel that workplace education and training holds real potential?

Secretary BROCK. Absolutely. Business is spending $40 billion a year, and a lot of that training is on just applying a particular skill to a particular job at a particular machine at a particular point in time, and it doesn't go the next step, the most important step.

But, yes, there is an enormously important role for us in the workplace and continuing education and training processes in this country, both in terms of motivation and in terms of leadership.

We can do that, I really do believe, in this worker adjustment program because while it is directed just at the displaced worker, it doesn't go to the worker on the job at the present time, but I think it can teach so much about what we can do to do things better this way and achieve so much more benefit. That is why we are excited by it. We think it makes a difference.

Representative SCHEUER. Thank you very, very much, Mr. Secretary. Thank you, Mr. Semerad. You have both been particularly thoughtful and stimulating. We enjoyed your testimony.

We will now call on the panel, Lou Harris, Admiral Watkins, and Professor Cohen.

All of your statements will be printed in the record. We would like you to chat with us informally, referring to any other statements you have heard from me, Secretary Brock and Assistant Secretary Semerad, Senator Sarbanes, and Congressman Sawyer.

So why don't you each take approximately 10 minutes to just chat with us. I am sure we will all have some questions for you.

Why don't we start out with Lou Harris.

Lou Harris, it goes without saying, is one of the Nation's outstanding pollsters. Few, if any, people in the country can match him in the degree to which he has his pulse on the thinking processes of the American people.

His testimony is important to us because without the full support of the American people the kind of reforms and new initiatives and funding we are all talking about would be virtually impossible. So it is critically important.

Lou Harris, it is a pleasure to have you here.

## STATEMENT OF LOUIS HARRIS, CHAIRMAN, LOUIS HARRIS & ASSOCIATES

Mr. HARRIS. Mr. Chairman, it is a pleasure to be here today.

I must say, as I listened to the Secretary of Labor and listened to the questions you put to him, I was tempted to add substantially to what my official testimony had in it.

I would like to remark just maybe 30 seconds on two areas. I know we have considerable data we have accumulated over the years and, say, if you would like, I would be prepared to return, prepare some more evidence for you.

One is on the sole subject of illiteracy and functional illiteracy.

I am proud to say that it was exactly 16 years ago today—not this exact day, but it was in the fall of 1971 that we did the first national study on functional illiteracy. Then it was called the National Council on Learning. I remember shocking some people in the Nixon White House by reporting on those results.

I must say, Mr. Chairman, that what we found then was that 17 percent of the adult population in the country was functionally illiterate, but the standards we used were so simplistic—such as could you read a sign on a highway, could you see directions, could you even identify a telephone book, a directory—that they are almost illiterate standards if I might suggest.

As of today, if you applied the same standards then, we have actually not reduced functional illiteracy by those measures. They have actually gone up by three or four points.

In terms of the need that we have and the challenge to our education system, I would suspect that it would be somewhere in the 60 to 70 percent range if you might find what we call functional illiteracy in terms of the needs of what we have to face.

The other, Mr. Chairman, is something that the Secretary touched on briefly, which deals with the handicapped.

Again, in the past 2 years it has been a privilege for the National Council on the Disabled here in Washington. It was founded by the President, but it is mainly a private sector agency with the cooperation of the Government. We found literally half of the disabled in the country want desperately to go to work, and these institutions of the country are not fit, not up to taking the challenge from the disabled to make them functional or working members of the work force.

As a consequence, the disabled are largely dependent on society rather than being able to contribute to society. This is an enormous well spring of the labor force which is not being realized.

But having said all this—I am sorry to have taken some of my precious time for that—I would like to reiterate something that I did say in the prepared statement. I will try to put it very briefly.

One of the misnomers that I think Capitol Hill is laboring under, Mr. Chairman—to be blunt about it, I think the Democratic majority—I will be blunt about that—is this notion that somehow you can pass protectionist legislation whether it is veiled as being, well, all we want really is to force the Japanese or whoever, the West Germans, to be able to allow us to open up markets for our products abroad, get a level playing field as it is called.

This, I would suggest, Mr. Chairman, is not the name of the game, not the name of the game that the American people feel. They will not buy it. They will not buy it politically in 1988. They will not buy it today, and the reason they won't is that they feel—and I think the great shock that ought to be realized to the people who run this country is that people do not blame the Japanese primarily for the plight we are in, in not being competitive. They do not blame the West Germans. They do not blame others. They blame ourselves.

As Shakespeare said, "It is not in the stars. It is in ourselves." People believe that.

We are just shocked out of our complacency to realize that there are high school kids who score as much lower as a third lower as other kids on similar examinations.

We are shocked that American managment seems to be asleep at the switch after we are prepared to believe that American management was leading the whole world in terms of adoption of high technology capabilities.

We are ashamed of the way American labor unions, to be blunt about it, simply have not stepped up and recognized that productivity is a key to survival of the country and a willingness to link wages with productivity.

These are things you don't hear about in political circles. I can tell you, Mr. Chairman, they are right on the minds and lips of the

American people up front, and what people say is they feel we had better do something very basic about our labor force.

You see, you can put it on one fundamental proposition. There is a lot of talk about refurbishing the auto industry, a lot of talk about getting competitive with competitors out of Asia, the Far East.

Let me tell you, Mr. Chairman, that Korean workers work for $2.50 or $4 an hour at most. They are working in many cases in more modern auto plants than we have. If we think we can hark back to the assembly line mentality of 30 years ago to reestablish America in this kind of mode, we are just kidding ourselves.

We are either going to have to face the proposition of cutting our standard of living in order to compete with the $2.50 and $4.50 or $4 an hour labor, or we are going to have to create a whole new economy and a whole new world out there for ourselves, and that means training a labor force which is so superior up and down the line that we will be the only country with a labor force capable of producing those services and those goods, which will make us noncompetitive with the rest of the world because they won't be able to compete with us.

That means, in turn, radically changing education. Make no mistake about it, it is not gradual. We had better do it in a hurry because people say this. By 68 to 29 percent they reject the view that we can compete on wages. We can't do that any longer without cutting our standard of living. We refuse to do it.

What people want, what they want more than anything else and the reason education has become pivotal in both the election of 1988 and the terms of where this country is going is people believe we had better come to grips once and for all with radicalizing the change in the system of education, and what that means is fundamentally not going back to the three R's. People reject that. There are 91 percent saying this is patent nonsense.

The Secretary quoted some numbers about how illiterate the students in the high schools are. I will just say this—I am cheating on this because there is a study, a major study that will be released next month. I am not free to give you the full results, so I shouldn't mention it. But let me say we have surveyed in depth high school juniors and seniors of this country, and I can tell you they aspire to much better things than they are given credit for.

But, roughly speaking, the only thing that they think that makes sense that the system tells them is go out and try to make a lot of money but not do your homework. Go out and make a lot of money. That is possible. Even though that isn't their great ambition, they think that is what is possible.

What they would like to do is make a contribution to the society in which they live, to make a better world than they have inherited, and you find by 50 or more points a gap between the number who want to do that and the number who think they are going to be able to do it.

We have not motivated these kids at all. If you think for a minute by teaching by rote to raise from 45 percent to 75 percent the number who know who Winston Churchill is, is patent nonsense.

What has to be done, Mr. Chairman, is this—and I am now saying this is what people feel deeply—you had better get a labor force which, one, can think for themselves; two, when they don't know facts have some frame of reference of knowing where they can get them; three, is able to figure out functionally on the job what it is that they are doing and what their job is all about and then how to get into doing the job; and finally to know what is the meaning of the job that I have got in terms of some larger framework here.

When you get to those things, you are talking about really major changes in education, and we have done that.

The Carnegie Forum on Education and the Economy, we have done in-depth studies, and we have found out there that people are indeed prepared. I will go down to the bottom line. They are prepared to put up 2 percent more of their entire income a year—and they are not prepared to do that for very many things—in taxes. If they are earmarked for education, to do what? To make what goes on in the classroom—in the classroom, not what goes on in the bureaucracy of the school system, not what goes on outside the classroom, but what goes on in the classroom in terms of what the teacher is teaching the student as the critical basic criterion of what education is all about.

In order to do that, though, we need to make teachers accountable. I have to give unions, like Albert Shanker's union, great credit for being willing to face this. We have also surveyed teachers and found out teachers are willing to do this, to have them accountable in a measurable way, which they are now working on at Stanford University, a way to measure what is the effectiveness of teaching in the schools, and teachers are willing and the society out there is even more willing to have that the criterion of what an education is.

How much are these kids learning? You measure it on a schoolwide basis. People get promoted when they produce, as teachers do. When they don't, they don't. Maybe they don't belong in the system.

These are radical things, but if you are going to do that, you have got to cut the teachers, in turn, into the action of what the school system is all about. If you are going to do that, then you had better be prepared to deal with teachers as professionals, not as sort of glorified clerks.

That means, in turn, that many teachers within the profession get like accountants and, say, not these 100,000 a year entry wages or salaries that graduates of business schools get on Wall Street firms or law firms, but rather 60,000 maximum for the most skilled of teachers, that's what accountants say by 3 to 1, the American people are willing to pay teachers $60,000 a year for being teachers.

In other words, they are prepared to back up with their pocketbooks where exactly their intent is.

There is one final element I just cannot ignore. Maybe, if I might, I would indulge myself for about 1 minute. That is all I will take.

I tried this out first publicly in all places. I have some North Carolina antecedents. So I tried it out in Greensboro, NC, about 6 months ago before a most conservative audience of business people from Winston-Salem, High Point, and Greensboro, which is a very conservative part of the South, believe me, and I laid it right out to them, and I said, look, 30 percent of all the school children today either come from minority backgrounds or white poverty backgrounds.

By and large, these kids are not only functional illiterates, they are dropouts, by and large. It is almost a third of our potential work force which is going to be, if we continue the way we are, permanently disabled and handicapped, not because of physical impairment, but simply by lack of education and training.

We are going to have to make a choice. The choice is going to be do we want these people, who are going to be a third of the future labor force, do we want them to be dependents, if you will, on the public weal, people who live off the public weal?

And they are going to live off it either in one of two ways. They are going to turn to crime in the streets. The jails are going to have to expand, and it is going to be very costly to the rest of the taxpayers. Or they are going to be on welfare, and the rest of the taxpayers are going to have to support them there. Or they are going to have to be subjects of remedial education, which is far more costly than doing it right in the first place.

So we laid it right on the line. We did it again this year. We said, do you want to make the choice going on as you have and having these people the wards of the rest of society, very expensively, or are you willing to pay through the nose to educate up to the rest of what we have to educate everyone up to the blacks, Hispanics, the other minorities, and a majority of that 30 percent who are white but who are in the poverty group?

And you find 71 percent of the American people say they are willing to do it. They are willing to pay for it.

When I tried this out in Greensboro, what amazed me was I said, look, I am talking about black kids now. This was an all-white audience, okay? And I said, I don't ask you the question of compassion. I ask you a question of survival of the country and your own self-interest.

Mr. Chairman, I got a standing ovation from the crowd. These people want to do this.

I am sort of mean about such things, but I took a poll of the group, how they felt about Jesse Helms; 2 to 1 they were Helms supporters.

Now, this is very interesting because if that washes for that group, Mr. Chairman, what I suggest is the American people are right and ready to do these things, and these are, I would suggest, radical things, not just conventional ideas.

I said at the Carnegie Forum meeting in May out in San Diego, I said, I am paid not to make a prediction except once every 4 years, the day before an election. But I said, I predict now that the education issue is going to turn totally the opposite of what it was. Everyone in education for years went crawling on their bellies to politicians, saying, can you please help us, please give us more money.

Senator Sarbanes, you know that, and all the rest of the people know that. I can tell you right now you are going to find the politicians all out scrambling each other in 1988, all of the candidates to see who can best take the leadership on this education issue. Why? Because it is the key to our survival.

I think I have spoken too much.

Thank you.

[The prepared statement of Mr. Harris follows:]

## PREPARED STATEMENT OF LOUIS HARRIS

MR. CHAIRMAN, IT IS A PRIVILEGE TO BE YOUR FIRST WITNESS IN THESE SIGNIFICANT HEARINGS YOU ARE LAUNCHING TODAY.

A SUBSTANTIAL 9 IN EVERY 10 AMERICANS ARE NOTHING SHORT OF ALARMED AT THE PROSPECTS OF AMERICAN INDUSTRY MEETING THE THREAT OF COMPETITION FROM ABROAD. NEARLY 3 IN EVERY 4 PEOPLE IN THIS COUNTRY THINK THE U.S. HAS FAILED DISMALLY IN THE CONTEST OVER PRODUCTIVITY AND CREDIT JAPAN WITH ACHIEVING MUCH HIGHER RATES OF PRODUCTIVITY. ANOTHER 6 IN EVERY 10 ARE SHOCKED, BECAUSE THEY HAVE LEARNED THAT AMERICAN HIGH SCHOOL STUDENTS ARE SCORING AS MUCH AS A THIRD LOWER THAN THOSE IN JAPAN AND IN WESTERN EUROPE ON IDENTICAL MATH, SCIENCE AND OTHER TECHNICAL EXAMS.

YET, SOME OF THE CONVENTIONAL WISDOM ASSUMPTIONS ABOUT WHAT OUR PEOPLE THEN CONCLUDE ARE SIMPLY 180 DEGREES WRONG. THAT WISDOM ASSUMES THAT THIS HAS MADE THE PUBLIC HERE AT HOME FURIOUS WITH THE JAPANESE AND THE WEST GERMANS, AND, IN TURN, THEY THEN WANT TO TURN TO PROTECTIONISM AND ANTI-JAPANESE AND ANTI-GERMAN MEASURES AS AN ANSWER.

THESE ASSUMPTIONS ARE WRONG ON ALL COUNTS. HARK WELL WHAT A NATIONAL CROSS-SECTION OF 1500 VOTERS TOLD US JUST LAST JULY. BY 72-24%, A BIG MAJORITY SAID THEY FELT THAT ONE REASON THE "U.S. IS LOSING ITS COMPETITIVENESS IN THE WORLD IS THAT AMERICAN CORPORATE EXECUTIVES DON'T CARE ABOUT AMERICAN WORKERS, AND ARE GIVING UP TRYING TO COMPETE USING AMERICAN LABOR."

YES, THE AMERICAN PEOPLE BLAME MANAGEMENT FOR BEING ASLEEP AT THE SWITCH IN THE FACE OF THIS COMPETITION. BUT THEY ALSO ARE QUICK TO BLAME LABOR UNIONS FOR BEING AVERSE TO HOOKING WAGES TO PRODUCTIVITY INCREASES. AND THEY BLAME THEMSELVES FOR FAILING TO LEARN THE PROPER DISCIPLINE TO BE A COMPETITIVE WORK FORCE.

YET, WHEN IN A MAJOR STUDY LAST YEAR FOR THE CARNEGIE FORUM ON EMPLOYMENT AND EDUCATION, OUR FIRM ASKED A CROSS-SECTION OF 1500 ADULTS, NOTE WELL THE SERIES OF REPLIES WE GOT BACK:

--BY 68-29%, A BIG MAJORITY REJECT THE VIEW THAT "THE ONLY WAY AMERICAN FIRMS CAN COMPETE IS TO LOWER WAGES WHICH MIGHT CAUSE A DECLINE IN THE STANDARD OF LIVING." WE ARE PATENTLY UNWILLING AS A NATION TO COMPETE WITH THE $2.50-$4.50 AN HOUR WAGES PAID IN SOUTH KOREA FOR AUTO WORKERS. THAT SIMPLY IS NOT THE ANSWER, MOST SAY.

--IT MAY COME AS A SURPRISE HERE ON CAPITOL HILL THAT ANOTHER 55-37% MAJORITY ALSO REJECTS THE ALTERNATIVE THE BEST COURSE FOR AMERICAN FIRMS TO COMPETE IS "TO HAVE TARIFF BARRIERS ESTABLISHED, IN ORDER TO MAKE AMERICAN FIRMS COMPETITIVE." PEOPLE THINK THIS IS THE ROUTE TO HIGHER INFLATION AND ECONOMIC DECLINE. WHEN GIVEN A DIRECT TRADE OFF BETWEEN "POLICIES WHICH RESTRICT IMPORTS FROM OTHER COUNTRIES," ON THE ONE HAND, OR "POLICIES WHICH ALLOWED THE U.S. TO COMPETE ON PRICE AND QUALITY WITHOUT PROTECTIONISM, PEOPLE OPT FOR THE LATTER BY A BIG 69-25%.

QUITE A DIFFERENT ANSWER IS WHAT MOST AMERICANS WILL OPT FOR IN TERMS OF WHAT THIS COUNTRY HAS TO DO TO BECOME COMPETITIVE:

--A BIG 70-25% MAJORITY OPTS FOR THE PROPOSITION OF "AUTOMATING OUT MOST LOW SKILL JOBS, THUS LEAVING JOBS THAT WILL REQUIRE HIGH LEVELS OF SKILL."

--AND, IF "AMERICAN FIRMS COMPETE BY EXPORTING LOW SKILL JOBS, NEW HIGH SKILL JOBS WILL HAVE TO BE CREATED TO MAINTAIN OUR STANDARD OF LIVING." A SIZABLE 68-26% MAJORITY BELIEVES THAT.

--A NEARLY UNANIMOUS 91-8% MAJORITY HAS REACHED THIS CONCLUSION: "THE U.S. WILL HAVE TO HAVE A WELL EDUCATED WORK FORCE TO DO MORE SKILLED JOBS TO PRODUCE NEW PRODUCTS AND SERVICES THAT WILL BE HIGHLY COMPETITIVE."

WHAT IS MORE, A SUBSTANTIAL 81% OF THE AMERICAN PEOPLE ARE CONVINCED THAT "HOW WELL THE U.S. EDUCATES ITS LABOR FORCE TO NEW SKILL LEVELS WILL MAKE A MAJOR DIFFERENCE IN WHETHER OR NOT THIS COUNTRY MAINTAINS A LEADING ECONOMIC POSITION IN THE WORLD."

AND HERE IS WHAT MOST PEOPLE THINK IS NECESSARY IN THAT TASK OF EDUCATION:

--8 IN 10 ARE CONVINCED THAT SIMPLY LEARNING SOME SET OF FACTS AND SKILLS THAT TEACH ONE HOW TO OPERATE IN A MASS PRODUCTION ENVIRONMENT, AS IT WAS IN THE PAST, JUST WILL NOT BE SUFFICIENT IN THE FUTURE.

INSTEAD 3 IN EVERY 4 NOW SAY THE NEW LABOR FORCE MUST BE ABLE TO "WRITE AND REASON WELL," MUST REALLY UNDERSTAND MATH, SCIENCE, AND TECHNOLOGY AND BE ABLE TO USE WHAT YOU KNOW," "TO LEARN HOW TO FIGURE OUT WHAT YOU NEED TO KNOW AND THEN HOW TO FIND IT," AND, ABOVE ALL, "TO EDUCATE PEOPLE WHO CAN THINK THEIR WAY CREATIVELY THROUGH TOUGH PROBLEMS."

WHAT IS MORE, 92% THINK IN THE FUTURE SUCH SKILLS WILL BE NEEDED BY ALL STUDENTS, NOT SIMPLY THE COLLEGE BOUND. AND BY 91-8%, THEY REJECT THE NOTION THAT GOING BACK TO TEACHING "BASICS"--MORE READING, WRITING AND ARITHMETIC--WILL DO THE JOB. NO WAY, THEY SAY. THEY NEED NEW AND FAR MORE SOPHISTICATED SKILLS.

BY 69-28%, PEOPLE ARE ALSO HIGHLY AWARE OF THE FACT THAT OUR WORK FORCE IS RAPIDLY GROWING OLDER, AND THUS, THOSE WHO WILL STILL BE WORKING MUST BE EVER MORE PRODUCTIVE TO PAY FOR OLDER CITIZEN NEEDS.

BUT PERHAPS THE MOST URGENT PROBLEM OF ALL CENTERS ON THE FACT THAT TODAY ROUGHLY 13 IN EVERY 10 PUBLIC SCHOOL STUDENTS ARE FROM THE RANKS OF MINORITIES--BLACKS AND HISPANICS--AND WHITES WHOSE FAMILIES ARE BELOW THE POVERTY LINE. A 2 TO 1 MAJORITY IS NOW CONVINCED THAT 6THIS GROUP IS BEING NEGLECTED AND IS BEING POORLY EDUCATED. THUS, 9 IN EVERY 10 SAY THEY FULLY EXPECT THAT IF THINGS GO ON THE WAY THEY ARE, THE COUNTRY WILL NEED MORE POLICE AND MORE JAILS BECAUSE THESE UNEDUCATED PEOPLE WILL END UP IN A LIFE OF CRIME. A SIMILAR NUMBER SEE SOARING WELFARE COSTS TO PAY FOR SUCH UNTRAINED PEOPLE WHO CANNOT WORK PRODUCTIVELY. AND A SIMILAR 8 IN 10 SAY THERE WILL BE HUGE COSTS FOR REMEDIAL EDUCATION FOR ILLITERATE YOUNG PEOPLE.

THUS, IT IS NO SURPRISE TO REPORT THAT 71% THINK NEGLECT IN CLOSING THE HUGE EDUCATION GAP BETWEEN MINORITY YOUNG PEOPLE AND THE REST WILL HAVE AN OVERWHELMINGLY NEGATIVE IMPACT ON THE COUNTRY'S ULTIMATE CAPACITY TO COMPETE IN WORLD MARKETS.

THE ANSWER: A BIG 75-23% MAJORITY OF VOTERS IN THE COUNTRY TODAY SUPPORT "INCREASING SPENDING ON EDUCATION TO MAKE MINORITY STUDENTS FULLY PRODUCTIVE MEMBERS OF THE LABOR FORCE." THEY ARE WILLING TO CONTRIBUTE 2% OF THEIR TOTAL INCOMES IN HIGHER TAXES TO PAY FOR THIS BASIC OVERHAUL OF EDUCATION. IN THE CASE OF MINORITY AND DISADVANTAGED YOUNG PEOPLE, THIS WILL MEAN NOTHING LESS THAN ATTRACTING THE BEST AND THE BRIGHTEST AMONG THE MINORITIES TO BECOME TEACHERS AND THEN TO GO TO FORCED DRAFT EDUCATION THAT MIGHT REQUIRE A 6 DAYS A WEEK REGIMEN TO BRING THIS 30% MINORITY AND POOR YOUNG PEOPLE UP TO THE LEVEL OF THE REST. AND THEN TO BRING ALL OF THE LABOR FORCE OF THE FUTURE TO NEW HEIGHTS OF THINKING AND KNOWLEDGEABLE STATUS.

LET ME SAY, MR. CHAIRMAN, IN ADVOCATING THIS, THE AMERICAN PEOPLE ARE NOT SAYING NEARLY SO MUCH IT IS A MATTER OF CONSCIENCE, ALTHOUGH CONSCIENCE IS MAKING A BIG COMEBACK AFTER NEARLY 7 YEARS OF ACTIVE NEGLECT IN THIS COUNTRY. INSTEAD, PEOPLE SEE IT AS A MATTER OF THEIR OWN AND THE COUNTRY'S SURVIVAL. EITHER WE BRING THE MINORITIES INTO THE MAINSTREAM AND FORCE DRAFT THEM TO A SKILL LEVEL EQUAL TO THE REST, OR MAKE UP OUR MINDS THEY WILL BE SUPPORTED BY THE PRODUCTIVE MAJORITY INTO PERPETUITY. THIS PROSPECT LEADS MOST AMERICANS TO CONCLUDE THAT WE SIMPLY WILL NOT MAKE IT COMPETITIVELY WITH A THIRD OF OUR POTENTIAL ON THE SIDELINES OF PERMANENTLY DISABLED AND HANDICAPPED BY DINT OF LACK OF EDUCATION AND TRAINING.

MR. CHAIRMAN, I PREDICTED BACK IN MAY AT A MEETING OF LEADING EDUCATORS FROM ALL OVER THE COUNTRY THAT THE ISSUE OF EDUCATION COULD WELL COME TO DOMINATE THE 1988 ELECTION. I HAVE NO REASON TO BACK OFF THAT PREDICTION. THE REASON IS NOT HARD TO FIND. MOST AMERICANS CLEARLY SEE SUCH RADICAL CHANGE IN EDUCATION AS THE BIGGEST KEY TO MAKING THE COUNTRY COMPETITIVE AGAIN.

SOME MAY THINK THESE ARE MERE WORDS, MERE PIOUS HOPES THAT THE AMERICAN PEOPLE ARE UTTERING THESE DAYS. SUCH NOTIONS AS ONCE AND FOR ALL MAKING TEACHER ACCOUNTABLE FOR WHAT THEY TEACH CHILDREN IN THE CLASSROOM ARE WHERE THE SHOE CLEARLY BINDS. TO PERSUADE TEACHERS THAT THEY SHOULD AGREE--AND LET ME ADD, THEY ARE NOT BALKING AT THIS PROPOSITION AT ALL--THEN IN ALL FAIRNESS, TEACHER MUST BE CUT MUCH MORE INTO THE PROCESS OF HOW SCHOOLS ARE RUN, HOW EDUCATION IS PLANNED. AND, ABOVE ALL, THEY MUST BE TREATED AS PROFESSIONALS. AND PROFESSIONALS GET PAID AS MUCH AS $60,000 A YEAR FOR A FULL-TIME JOB, IT SHOULD BE NOTED. A 3-1 MAJORITY OF THE PUBLIC ALSO FAVORS ALL THAT.

THE NATION'S GOVERNORS HAVE TAKEN THE LEAD ON EDUCATION REFORM AND THE STATES AND LOCALITIES ARE WHERE THE FINAL ACTION MUST TAKE PLACE. BUT, HERE IN CONGRESS AND IN WASHINGTON IS WHERE THE NATIONAL THRUST MUST BE INITIATED, AND THE NATIONAL WILL OF THIS COUNTRY SPELLED OUT. THE PUBLIC IS WAY AHEAD OF ITS LEADERS ON THIS CRUCIAL MAKE OR BREAK MATTER. I URGE YOU TO RUN AT BREAKNECK SPEED TO CATCH UP.

THE LEADERSHIP MANTLE AWAITS THE PERCEPTIVE, THE SWIFT, AND THE BOLD. REJECTION WILL BE THE REWARD OF THE TIMID OR THE MEEK WHO WOULD CAUTION GOING SLOW OR WHO WOULD OPT FOR TOKEN AND SMALL MEASURES. FOR, OVER AND ABOVE IT ALL, THE PEOPLE SEEM TO SENSE AS RARELY BEFORE THAT THE VERY SURVIVAL OF THIS GREAT NATION LIES IN THE OFFING. SO ACT NOW, NOT LATER. ACT BEFORE IT IS TOO LATE.

Representative SCHEUER. Thank you very, very much, Lou Harris.

Next, we will hear from Admiral Watkins.

I know of no representative of the Armed Forces who has been more creative and more courageous and more forthright in speaking out about the problems with military personnel as you have.

Congratulations, and I encourage you. It is a great pleasure to have you before us.

## STATEMENT OF ADM. JAMES D. WATKINS, U.S. NAVY, RETIRED

Admiral WATKINS. Thank you very much, Mr. Chairman. You asked me to come before this committee today on the American worker and to share my views in a couple of areas, how deficits of the education, skills, moral fiber, and health of young Americans affect the defense preparedness and military strategy of the United States and the scale of the effort required to fix the problem.

I can't remember one issue that has galvanized a coalition of public and private leaders more than the situation regarding American youth, their education, their health and their motivation for becoming productive members in the community.

You know, we have had a plethora of commissions, councils, and conferences over the last 4 years that have given us some impressive insights. The data coming out of them has been compelling, yet we still don't have an aroused public.

We had the Commission on Excellence in Education, which stated that the Nation was at risk. It sparked a lot of enthusiasm among those that hoped that there would be some continuing, sustained leadership on the issues raised. Unfortunately, we have not witnessed this kind of leadership over the interim years.

We had the President's Council on Physical Fitness and Sports in 1985. This certainly shocked me when it reported that: we had lost 50 percent of all the physical fitness programs in our grammar schools; we had lost 50 percent of all testing in the high schools; we were devoting an average of 1 hour a day per week 25, 30 years ago to controlled physical exercise and now devote only 20 minutes once a week to this important adolescent development function.

The Secretary of Health and Human Services Task Force on Black and Other Minority Health in 1985 shocked us with their report about the projected health of the Nation's youth in 1991. This excellent report is truly frightening for anybody that reads it. I addressed the White House Symposium on Education Partnerships last fall and held up this same document and said, "How many of you 600 educators have ever heard of this book?" Not one hand went up. I said, "but these are the kids in your kindergartens and first grades now; they are yours; we know who they are, their poverty status, their color, and their projection as potential failures in the work force unless you help them and get conscious again about health education and health promotion as an integral part of the total education process." I find that educators and health promoters don't talk to each other.

The Committee on Economic Development has produced two wonderful reports, most recently under Owen Bradley Butler, the former chairman of the Board of Procter & Gamble. The latest is a substantive report of his committee, which represents over 250 entities, from business and academia, and addresses the critically important subject of educating disadvantaged children. The whole thrust of their document, recently presented by Mr. Butler before the Senator Kennedy/Congressman Hawkins committee, pointed to the relevance of early education of adolescents.

Some of the things that Bill Brock talked about this morning, like preschool education and health, tells all of us that we have to worry a lot about the process very early in the game in order to give youngsters a chance later on to deal with the complexities of life as they move through its various stages up to adulthood.

The Carnegie Forum on Education and the Economy last year shocked many in the Nation with their very strong report on how to restore professionalism to the teaching profession. I admire Mr. Al Shanker's support for their report because, in so doing, he was breaking bureaucratic barriers which have defied progress in the past.

When I addressed that Forum at David Hamburg's request, about 25 percent of the group attending—and these are academics, now, in the ecumenical business of education—said, "why the hell would I ever listen to an Admiral talking about education?" Just ask Mr. Hamburg who gave the most stirring address at his forum.

The National Governors' Association is also worried. Under Governor Bill Clinton of Arkansas last year and now under Governor Ashcroft of Missouri this year as chairman of the Education Commission of the States, the NGA is most concerned over the projected preparedness of their work forces for the year 2000. I know these Governors and others are scheduled to come before this committee later on. I admire your list of prospective witnesses. You have assembled a powerful list. They know what they are talking about.

Last year, I was asked to address the Youth 2000 Conference, a watershed conference held here in Washington. I had been asked by Bill Brock to address that group, sponsored by Labor, HHS, Education, and hosted by the National Alliance of Business, which included some of the top people across the Nation representing youth. All presented their concerns and presented what they thought was the answer to the national dilemma. All were right if taken in aggregate. But it was clear that there was no mechanism to integrate their answers.

Now, how did I get into all this? What is an Admiral doing in this game, anyway?

Well, I was blessed with being in charge of enlisted personnel for almost the entire decade of the 1970's. I was in charge of all the nuclear trained personnel, later on Director of Enlisted Personnel, and later on Chief of Naval Personnel. I could not extract myself from that field of endeavor as the transition from draft to all-volunteer military occurred.

What we learned in that process made the all-volunteer force worthwhile. The new system should have been voted in, but for another stated reason. It made us understanding human beings. It made us part of the national scheme of things. It brought us into the concept of real community service to the Nation.

But we weren't ready to make that transition. We had no social support structure to deal with the plethora of issues which must be integrated if you are going to build a literate, healthy, and motivated force.

We never had been in large-scale remedial education or remedial health work. In fact, the Congress would not fund such things under the draft. But they were beginning to open the doors by the early 1970's funding the early days of the transition. Frankly, we were down on our knees—didn't know how to handle the problem.

We weren't competitive for human resources in any way. We in the Navy had the worst equal opportunity record of all the services and probably were one of the worst employers in the Nation because of it.

You remember the *Kittyhawk/Constellation* race riot.

We had one-third of our youngsters coming in as non-high-school graduates, and imposed upon us by the Department of Defense, was Project 100,000. These are the young people who were *all* at-risk, teenage criminals and the like. The judges would openly say: "Young man, you have been convicted of a felony; however, if you go in the Marine Corps or the Navy, I will let you off the hook."

We had lots of those, and we didn't know how to work with them.

If you recall at the time of the war in Vietnam, it was embarrassing for our people to wear their uniform in the streets of our own country. We had a disproportionate number of poor and minorities in the services. Reading and math comprehension was so low we had to set up massive new programs to deal with this form of functional illiteracy so we could be competitive.

Our people were coming in increasingly unfit physically, as I mentioned earlier. So we were afflicted with the same youth-at-risk issues that the entire nation was afflicted with, and we were so down on our knees in readiness by 1979 because of this situation that we could not safely steam some of our ships.

So how did we have to respond?

We had to build in remedial education programs and solve our own literacy problems because we could no longer dump kids back on society as we had done during the draft, drawing another one in replacement. We had to fix our own problems now.

We had to build drug and alcohol counseling, rehabilitation centers. Initially, we didn't believe we had a drug problem. But when the verbal surveys were confirmed by urinalysis examinations, we learned quickly that we had a very serious problem. The verbal survey had been right on the mark, 55 percent marijuana usage in our 18 to 21 year olds.

We didn't believe we had an alcohol problem. Yet, we quickly learned we had a significant one, not only with new entrants but with the career force as well.

We didn't realize the relationship between child day care centers and readiness, and I will have to say that, Representative Schroeder beat me about the head and shoulders during hearings in 1977 and said, "Admiral, you don't understand that relationship".

I didn't, but I do now, and we have them all over the world today. We had not recognized changing life styles and the fact that

70 to 80 percent of our young kids were married and both spouses had to work.

We also had to expand our continuing education program. We established Project Boost to take people who were disadvantaged, but had the potential, and move them on to college. We are now sending 200 a year to the best colleges in the country.

We had to establish what I call the so-called JOBS Program. I did this in 1977—job-oriented, basic skill (JOBS) training. What is it? Nothing more than Leon Sullivan's program of OICA in Philadelphia.

I went up to see him. I pleaded with him—"tell me how you do it, how do you reclaim youth and get them back in the mainstream"? We then set it up within the Navy, a brand new program.

We also built an entire career counselor community in the Navy. We never had one before. Why? Because you need that peer motivation, the peer educator, the peer mentor to make the young kids who were down on management and the institutions—and also on themselves during that period—come around. It has taken us a long time to get peer pressure on the side of the unit or command.

We also had to institutionalize affirmative action programs that were meaningful. We did that with a vengeance. Today, as a result, we are down to less than 5 percent marijuana use among that same cohort group we were talking about earlier. Instead of being the worst equal opportunity employer, we became one of the better ones.

In fact, Benjamin Hooks awarded me a meritorious achievement award at the international convention in Philadelphia last year.

So blacks are not afraid to come in the Navy anymore. They used to believe that we would throw them over the side. Conceptually they were right.

Moreover, the Navy was rated by MONEY magazine a couple of years ago as one of the 10 best large employers in the Nation. As a consequence, the proclivity for sailors to stay in the Navy today is the greatest we have ever known.

But, most importantly, we took 70 percent of the youth-at-risk group, the same group that we are still worried about—the disadvantaged, the impoverished, the illiterate that Mr. Harris talked about—and we brought them back into the productive work force.

That 70 percent figure was about the yield fom the OICA operation out of Philadelphia as well. That same yield echoes what Andrew Young is saying about his community service program down in Atlanta as well.

So why don't we set a national objective to get 70 percent of those kids—of that 30 percent that are now out of the mainstream—let's get 70 percent back in the mainstream by the year 2000. It isn't hard to do. We know how to do it. Now, what did all this cost us?

We had no integrated support structure to begin with, as I mentioned to you, and I can only tell you today's estimated operational cost of just these programs is 150 million a year in the Navy. The startup costs were rather significant, but they are blended in with all the other things the Navy does, and there isn't any clean set of line items that can identify what those initial costs were.

So, there has to be some investment up front. We had to build some remediation centers, for instance.

Now, all that was good enough for the mid-1980's and before; but as Chief of Naval Operations, it was very clear to me that unless we faced the kinds of new issues raised by your committee and articulated by your witnesses here today, we simply weren't going to make it over the *next* 15 years as we did over the *last* 15, a period when we enjoyed an affluence of young 18 year olds.

I would ask that you now focus your attention on the graph that I attached to the back of my prepared statement. I think it is very critical to understand that graph.

This graph comes from the "Reconnecting Youth", published by the Education Commission of the States in 1985. It really shows you the problem. On the ordinate you see the number of 16 to 24 year olds in the Nation. The significant numerical decline from 1978, then to 1983, then to 1994 is a result of the 25 percent drop in the numbers of 18 year olds reaching the work force which, in turn, derives from the baby bust of the 1960's and 1970's.

As a consequence of that, inside the standpipes shown, you will see the black portion of the column on the bottom and the white on top, the white being the disconnected youth, representing about 25 percent of the young people entering the work force age cohort each year. But the business demand against that account, shown at the dotted line, is increasing at a significant pace, and it crosses through the disadvantaged group by about now, 1987. We have seen signs of this reality across the country in recent summer hires, in the inability of industry to find even the "connected" kids ready for productive work in the modern workplace.

So, in 1994 it will be so serious that we may not be able to extract ourselves from its consequences unless we start now to do the kinds of things Secretary Brock talked about.

Foreign hires. What a disgrace for this country if 30 percent of our youth are allowed to remain out of the mainstream and business is forced to resort to foreign hires. So, what do we do?

Well, I can tell you what we did in the Navy. We established a task force to look at all of these things and determine what role we could play in partnership with the private sector and carry a larger part of the burden. We have facilities, we have bases, we have physical fitness facilities and instructors. The kids, when they don't have these things in school can come to us. We have a lot of qualified teachers, state-credentialed who are waiting and willing to volunteer from retired life.

One wonderful thing about the military I have found is that our sailors are willing to volunteer to help somebody else.

I brought in this task force of very, very prominent people—Harrison Schull from the University of Colorado, David Hamburg from the Carnegie Corporation, Beverly Ware from Ford Motor Company, Dr. Koop and others of like stature. We had people from the Olympic Committee also. I asked of them, "what do we do?" They said you must expand your public-to-private partnership efforts. You can adopt more schools in their math and science programs, for example. Go statewide where you're now local. Find a State willing to plug you into their larger education consortium. So, we talked to Bill Honig, the Superintendent of Public Instruction in

California, and Governor Dukmejian, both competent in this field and both very sensitive to the broader issues. We were able to link up with their Chamber of Commerce, the Business Round Table, other entities public and private. After a year of work, we were accepted into the Consortium of Education Partnerships in California earlier this year.

All of this then told me there must be a better way to ignite the public spark on this issue. It is my belief, with my Navy experience, and after 9 months of intensive effort since my retirement, that only American business probably has the potential clout sufficient to pick up the baton of leadership and pull all participating entities together, including the Department of Labor and the Department of Health, the Department of Commerce, the Department of Health and Human Services, on the public side but molded into one powerful group with the key private sector entities. Along with this kind of commitment, we would encourage subcommittee on youth like yours, here today, with motivation, health and education of young people their focus of attention.

It's incredible, we love it. The task then of this American Business/National Forum that I am trying to establish with the help of people like Owen Bradley Butler, former CEO of Proctor & Gamble and currently chairman, Committee on Economic Development, who has committed himself to this task, is to make personal excellence of American youth a national goal and set our sights to have a healthy, literate, motivated, and educated base of American youth by the year 2000.

The Forum can provide the kind of sustained leadership which, I said earlier, we have lost. They can focus particular attention on the disadvantaged youth group which that graph I put into my prepared statement to you says is important. We can't throw those kids away as unwanted chaff of society—in our jails, in our clinics, and so forth. We can't continue to spend $11 billion to $16 billion a year on unwanted teen pregnancies. We have to inspire regional, State, and local authorities to place personal excellence of their young people high on their policy agenda.

Some States have taken the bull by the horns. South Carolina, for example, has a Governor's council on youth.

I believe, in conclusion, that the past way of doing business, the institutional process, is bankrupt. I believe we have an unprecedented opportunity for public and private ventures, taking a nonpartisan approach, sparked by American business leadership, to move the Nation. And I believe that education and health and the spirit of our kids, are key ingredients to national security.

We cannot say, "What do you want, national security or education?" They are the same. They are integrally tied to each other. I think we need to set this relationship as a national objective.

If we achieve objectives we set, which don't exist today, then we will have sent a deterrent signal to those who against our democratic way of life that is far more powerful than two more carrier battle groups, five more tactical fighter wings, and two more army divisions—I guarantee you that—because that is how the Soviets would look at it.

The Soviets put great stake in the spirit and the motivation, in the education and the health of their base of youth. And they look at ours; and when they see we are weak, adventurism starts. When our young people are strong, they lay off.

Thank you, Mr. Chairman.

[The prepared statement of Admiral Watkins follows:]

## PREPARED STATEMENT OF ADM. JAMES D. WATKINS

Thank you, Mr. Chairman, for allowing me this opportunity to testify before your committee on the vital subject of "Competitiveness and The Quality of the American Workforce". Since you indicated to me that your focus today would be on "The American Worker", you asked that I be ready to share my views with you in two areas: (1) how deficits in the education, skills, moral fibre, and health of young Americans affect the defense preparedness and military strategy of the United States and (2) the scale of the effort required to fix the problem.

I believe I can best satisfy your interests by tracing a number of experiences over the past 15 years involving the young American 18-year old volunteer worker in navy uniform.

From 1969 through 1978, I was deeply involved in naval personnel matters - first as head of all nuclear trained personnel; then as the Navy's first Director of Enlisted Personnel; then as Chief of Naval Personnel. Those were particularly difficult times for our military services, as we struggled out from under the guilt and despair suffered in the wake of Vietnam. Loss of self-esteem from lack of public support was a real issue with our people. It was also a time when we were attempting to make the all-volunteer military concept work, a relatively new national policy that had rather suddenly replaced the draft. We simply were not ready for it ...

The Navy was not competitive for human resources vis-a-vis the private sector. They had no support structure in place to deal with the kind of volunteer enlistees appearing at our recruiting stations. A brief profile of new recruits went something like this:

a) depressed motivation in about 1/3 of the recruits calling for a considerably enhanced counseling program.

b) disproportionate number of poor and minorities — significantly out of balance relative to the demographic spit across the nation.

c) reading and math comprehension down — 23,000 recruits out of the 100,000 recruited annually could not read above the 8th reading grade level, yet most of these had earned high school diplomas. A significant number of the 23,000 read at the sixth reading grade level and could not read such basic safety warnings as "BEWARE OF JET BLAST", yet most held high school diplomas in their hands.

d) could not enter Navy's technical schools without significant extension of the course length to permit reeducation and training to basic skill level which one would expect of almost any holder of a high school diploma.

e) increasingly unfit physically — could not run a mile in 10 minutes, or hang on a bar for a few seconds, or do a pull-up or sit-up, or be within acceptable body fat content, etc.

f) low numbers of high school graduates overall (about 1/3 were non-graduates) and the attendant high attrition at initial entry training ("Boot Camp") which had more than doubled to about 25 percent for all new entrants.

As a result, it soon became clear to Navy's leadership that we were rapidly declining in overall fighting strength and readiness. In fact, by last decade's end we had reached the lowest point in Navy readiness since World War II. Some ships were declared unsafe to steam because of poor leadership, morale, and inadequate numbers of qualified sailors. We were on our knees as an effective fighting force. Why? Because of shortcomings in ships, planes and technology? No, nothing quite so simple to remedy as that ... Our problems stemmed from inadequate quantity, quality, and motivation of our sailors — our American workers — always the ultimate determination of military strength and effectiveness.

So, in recognition of our non-competitiveness with the private sector, the Navy was forced to embark on a wide-ranging set of initiatives to build a new support structure for their people which included the following:

a) expansion of remedial education programs at entry level to help save individuals and, hence, lower the staggering attrition rate. The Navy had begun to realize it could no longer discharge the unprepared sailor back to society as once done rather casually under the draft.

b) building drug and alcohol prevention and rehabilitation centers to save large numbers of both career and non-career personnel who would otherwise have been discharged under the old draft concept. Replacements through recruiting was no longer an option since the national proclivity to volunteer for military service was down considerably.

c) building child day care centers to accommodate changing lifestyles of our young sailors — 70-80 percent of husbands and wives had to work to survive. The Navy had none.

d) building over sixty new Family Service Centers to meet job, housing, legal, financial, spiritual needs of our sailors. The Navy had none.

e) expansion of our continuing education programs for sailors to motivate those who aspired to "be all they could be". This included project "BOOST" which targeted new recruits, particularly minorities at the outset, who had college potential but had never been given a chance before, for whatever reason. Today, about 150-200 graduates of BOOST enter our finest NROTC colleges and the U. S. Naval Academy annually.

f) establishing a Navy Job-Oriented Basic Skills training program along lines established by Dr. Leon Sullivan in his nationwide OICA network, headquartered in Philadelphia. This program helps reclaim young people who have left the mainstream of society and need personal counseling and assistance to reenter it and become productive workers.

g) building an entire new peer-counseling community within the Navy's rating system, called Career Counselors, to better intervene with the new culture which in the 70's was almost universally hostile to the traditional leadership of the institution — peers helping to motivate and inspire their shipmates.

h) institutionalizing meaningful Affirmative Action programs which heretofore had not been substantial and effective.

Results after about 10 years of effort along lines outlined above included:

a) Navy drug abuse down from about 55% marijuana useage among 18-21 year olds to less than 5%.

b) Equal Opportunity, up significantly. In fact, Mr. Benjamin Hooks awarded me with his NAACP Meritorious Achievement Award in July 1986 at their National Convention in Philadelphia in commemoration of substantive progress in the Navy. Blacks are no longer afraid to serve in the Navy. Demographically balanced inputs of all minorities are now volunteering for naval service.

c) Navy being recognized in 1985 by MONEY magazine among the top 10 of the large-size employers in the nation. The Navy had become competitive.

d) sailors were remaining in the Navy for a career at unprecedented high rates (more than twice the pitiful lows of the 70's)

e) 70% of the incoming volunteers in the "youth-at-risk" category (i.e. involved in teen crime and substance abuse, with depressed motivation, or were school drop-outs, etc.) were being motivated, re-educated, and made healthy again so as to remain productive members of the work force.

f) overall Navy readiness by 1986 had reached its highest peak since the end of World War II. Why? The spirit of members was soaring. Sailors were wanted by the American Public; they cared for each other, the Navy and their country; their self-esteem had been restored.

But, today, despite the fact that numbers of high school graduates entering the Navy has risen, the same remediation program must still be given to about the same percentage — one out of every four recruits ... alas, no measurable progress in educational performance over the interim decade. Furthermore, the health and fitness of potential recruits has continued to decline over the past 5 years. So, it was my Navy experience that convinced me more could and should be done in the private sector to address and correct what was fast becoming a major national resource dilemma. I began asking questions and thinking more soberly about the future of our nation's youth related to the demand from both private and public sectors which would be placed on them.

I wondered why remediation had been accepted as a de-facto national policy — sure, it was probably essential as a near term expedient — but where was the long term focus? Wasn't remediation too little, too late? I wondered why society remained so quiet in bearing the double burden and cost of early schooling and training only to be followed by costly at-the-workplace remediation in the same disciplines. As a result, I was convinced that more cooperative and coordinated efforts were essential to effect needed change. There were too many concerned Americans working in youth programs just focused on education, while others focused on health, and still others on treating isolated symptoms of larger social problems — and decided that our institutional process must start looking at issues of youth from an integrated perspective, rather than by treating discrete elements of the whole-child in isolation from one another. I wondered why, despite many well-designed programs, we allowed youth-at-risk problems to continue to fester at a time when we were facing shortages of quality young people. Wasn't it clear that we could largely finesse this shortage and solve our problems if we would but focus on the growing youth-at-risk group and bring the large majority of these potentially productive youth into the work force? Many organizations have proven they know how to do this.

Certainly, the Navy did. We showed success in motivating about 70 percent of newly-recruited youth at risk to the productive team. Annual costs to Navy for becoming a competitive employer across all these areas grew from virtually zero in the early 70's to about 150 million dollars by the time I retired last year, a small figure when you consider the cost of alternatives.

So, it became patently clear to me that we were a nation facing a serious challenge, as great a challenge to our future, our security, our democracy as we had ever faced. In fact, the wide range of problems that place about one quarter of our nation's young people in the at-risk category diminishes all of us collectively — illiteracy, school dropouts, drug/alcohol abuse, unwanted teenage pregnancy and other unhealthful lifestyles. Regrettably, however, there is more — for while numbers of "youth at risk" within the teenage pool are rising, the size of the total pool itself is shrinking ... estimated to fall to a new low-water mark in only seven more years.

To compound our problem of shortages in the supply of qualified and motivated youth, there is a growing demand for prepared and fit young people to enter the work force each year ... fueled by America's international competition with other nations striving to fully develop their own national capabilities. Figure 1, taken from an authoritative source, reflects the supply and demand relationship between Youth and Business. What is dramatically shown here is that we can no longer tolerate the unnecessary waste of human potential in the "at-risk" segments shown in white. About 70%, then, must be brought back into the mainstream workforce to offset the numerical decline between now and 1994. I think such an objective could be achieved if we all believed it was really important.

Moreover, these are not problems which face only one class, or race or group of Americans. On the contrary, even among those young people not at risk today, the ones shown in black in Figure 1, there is a growing gap between skills demanded in the competitive marketplace and ability of our education process to maintain necessary pace with those demands. The net result is that too many of our potentially productive young people are also ill-prepared for entry into the modern workplace. To date, our answer has been costly post-school remediation in basic reading, writing, math, science, and computer literacy skills, making remediation one of the nation's largest growth industries. When are we going to get mad about paying more than once for what we expect to see flowing out of the basic education process?

Projections in Figure 1 make it obvious that the resultant size and readiness of the national workforce over the next 10-15 years is in significant jeopardy without drastic action. Already in 1987, we have witnessed employers scrapping for increasingly scarce human resources who can meet their basic needs. As a result, if the military succeeds in their legitimate efforts to do whatever is necessary to see that the all-volunteer forces remain healthy, the private sector and the economy will correspondingly lose. This is not a criticism of either but an unfortunate fact. The health of both is essential to national security.

So, while Navy's commendable efforts for the past 15 years through the mid-80's may have been sufficient, they cannot survive the next 15 years. Because I felt so strongly about this, I launched the Navy on an effort in 1985 called "Personal Excellence and National Security". We assembled an impressive Task Force from the private sector, made up of leaders in the fields of education and health. Their report to me was hard-hitting across the board but most importantly, encouraged the Navy to get more involved in partnership with the private sector. They felt this was essential if we were to help expand the base of eligible youth to meet all national workforce needs. Since the military by the late 80's would be demanding 1 out of every 2 qualified males from the nation's annual crop of 18-year olds, it was clear that the "qualified" base needed significant enhancement from the "unqualified" segment — one we now call the "youth-at-risk" group, or the "disadvantaged". Until recently, our society has failed to accept responsibility or accountability for this group. In fact, we have treated them as the "chaff of society", allowing them to be cast adrift from the mainstream. Well, that's not going to be good enough when we need a large fraction of them back in the mainstream of American society.

As a result of my Task Force's recommendations, we expanded existing successful Navy public/private sector pilot programs previously initiated on a small scale in a number of states. For example, Navy had about 3-4 years of experience in the following community partnership programs for adolescents:

a) "Adopt-a-School"
b) "Saturday Scholars"
c) "Math and Science"
d) "Youth Fitness Fairs"

In addition, I met with Governor Deukmejian in California and with support from his Superintendent of Public Instruction, Mr. Bill Honig, the Navy worked hard over the ensuing year and was officially accepted as a statewide partner in the California Consortium of Education Partnerships in March of this year. This kind of public/private venture by all large entities like the Navy will be needed if the nation is going to get serious about repairing the literacy, health, and motivational ills of our base of youth.

Why is it taking so long for Americans to get on this kind of partnership bandwagon? Where is the leadership? We should wait neither for further studies nor exposure of more problems before we unite to forge a better tomorrow out of a shakey present. There has already been a wealth of review, a host of concern, extensive study about the problems I have been discussing here. The volume of related bibliography in just the past few years is staggering. Consider the following compelling reports and landmark conferences:

a) National Commission on Excellence in Education: A Nation at Risk - 1983.

b) President's Council on Physical Fitness and Sports - 1985.

c) Private Sector Initiatives (PSI) - Partnerships in Education - 4th National White House Symposium to be held October 1987.

d) Secretary of HHS Task Force report on "Blacks and Other Minority Health" - 1985.

e) Committee on Economic Development Reports on "Investment in Our Children" - 1985, and the very compelling 1987 report on educating the disadvantaged.

    1. Endorsed by 250 Trustees representing Business and Academia

f) Carnegie Forum on Education and the Economy regarding renewed teacher professionalism - 1986.

g) National Governors Association "Time for Results" report on education - 1986.

h) Youth: 2000 "Call to Action" Conference sponsored by Depts. of Labor/HHS/Educ. and hosted by NAB - 1986.

Despite the compelling messages sent by these reports and conferences, the challenge continues to defy even the very good work underway across the nation by the entire community of dedicated and concerned public and private organizations working in the fields of children and youth. From my observations as Chief of Naval Operations and from my intense involvement with influentials in the field of youth over the past year since retirement, my assessment of the national response to the heightened awareness of our youth problems to date is as follows:

a) Good work, yes; but fragmented - interconnections weak between education, health, and motivational elements. Not yet touching enough young people and, therefore, not making the desired national impact on reversing undesirable trends, particularly among youth-at-risk elements of our society.

b) Lack of visible, sustained and involved national leadership - Commission on education excellence in 1983; Council on physical fitness and sports in 1985; drugs last year; AIDS this year; maybe teenage pregnancy next - who knows?

c) No coherent, integrated national objectives for youth of America - hence no standard by which progress toward resolving youth-at-risk, demographics, or education and health reform issues can be measured.

d) Afflicted with long-standing and outmoded national "stovepipe" organizational structures (public and private) which deal with bits and pieces of the youth puzzle. Yet the "grass roots" level is struggling with real-world, whole-child issues that don't lend themselves to effective treatment in isolation, one from the other.

e) Still an unalarmed public,despite compelling aggregation of data that justify serious national concern that cries for strong corrective actions. Growing work force entrants in year 2000 are now in grammar school. We know what reforms are urgently needed. We need no further studies to get this nation moving.

f) We have allowed expensive remediation to become a defacto national policy. A comprenhensive prevention strategy to deal with all issues affecting youth has not yet been developed. Costs of prevention strategies are amortized quickly by cost avoidance of remediation.

g) A major restructuring of how we do our youth business is called for on an urgent basis. The existing institutional process is bankrupt. It may have been good enough for other times; but it is clearly unresponsive for the current situation we face.

So, isn't it about time to capitalize on the compelling content of recent reports, studies and conferences and create a national movement to place and keep youth at the top of our national agenda, for at least a little while. For the children who will be at risk tomorrow — and who must be ready to lead this nation into the next century — are in the kindergartens and first and second grades today in large numbers. So, the "Youth 2000" problem is immediate.

To accomplish this bold task, I am currently trying to inspire a business-sponsored National Forum of selected leaders — known and respected for their interest in the future of our country and known to be committed to the task of enhancing the condition of American youth — to be established immediately. These Americans would help provide visible and sustaining leadership and would create the influence necessary to keep personal excellence in youth atop our national agenda.

Their combined stature, commitment, and political clout would give focus to new and urgently needed actions to achieve desired personal excellence in youth by the turn of the century, emphasizing long-term prevention of detractors to excellence. This leadership would work for the next several years to influence formulation of broad national objectives for youth, of which there are none now. This would be done on a coordinated and consensus-building basis. The National Forum for youth would also inspire and help provide necessary support to regional, state and local leaders who have been struggling somewhat alone to bring solutions to youth problems to the fore. The National Forum could also exert leverage to mobilize public and private sector resources necessary to initiate a wide range of preventive programs.

Of course, the beauty of prevention is that initial investment is amortized quickly. In fact, isn't this the way to permit cut back on the estimated 20-40 billion dollars business and others already spend annually on remediation and related social program costs? There is evidence that cost of prevention is about one-seventh that of remediation. Hence, 80% of these staggering remedial costs could be spared. Wouldn't it make good sense, then, to wean ourselve off current, very expensive remediation and to transition to cost-effective prevention as one of the many national objectives we should adopt?

Response to such a call for excellence requires a cohesive strategy, integrating the three fundamental elements of personal excellence — education, health-fitness and motivation for all our young people. This integrated approach is fundamental to the strategy. Of these three integrated components, I see one as the linchpin, the glue giving all youngsters a reason to reach for and grasp their full potential in the other two. This linchpin component is motivation, or the spirit.

Motivation regimes to build self-esteem, self dignity, and self confidence are not unknown. Superb examples are becoming increasingly visible at local levels across this nation. However, of the many possible motivational concepts, one now being employed in increasingly large numbers of school districts across the country seems to stand out as holding significant potential for an eventual embrace nationwide — youth service through approved community, state, or nationally sponsored programs to serve the needs of others.

Key here, insofar as the personal excellence concept from kindergarten through the twelfth grade is concerned, is to ensure that needed curricular reforms in education and health promotion contain integral ties to this motivational concept. Structured learning experiences in the community should also be closely linked with school curricula. Enhanced resources or other incentives to State and local sponsors and even to youth themselves, may well be needed to encourage both in-school and post-school community service. The National Forum would have the strength to help bring this about.

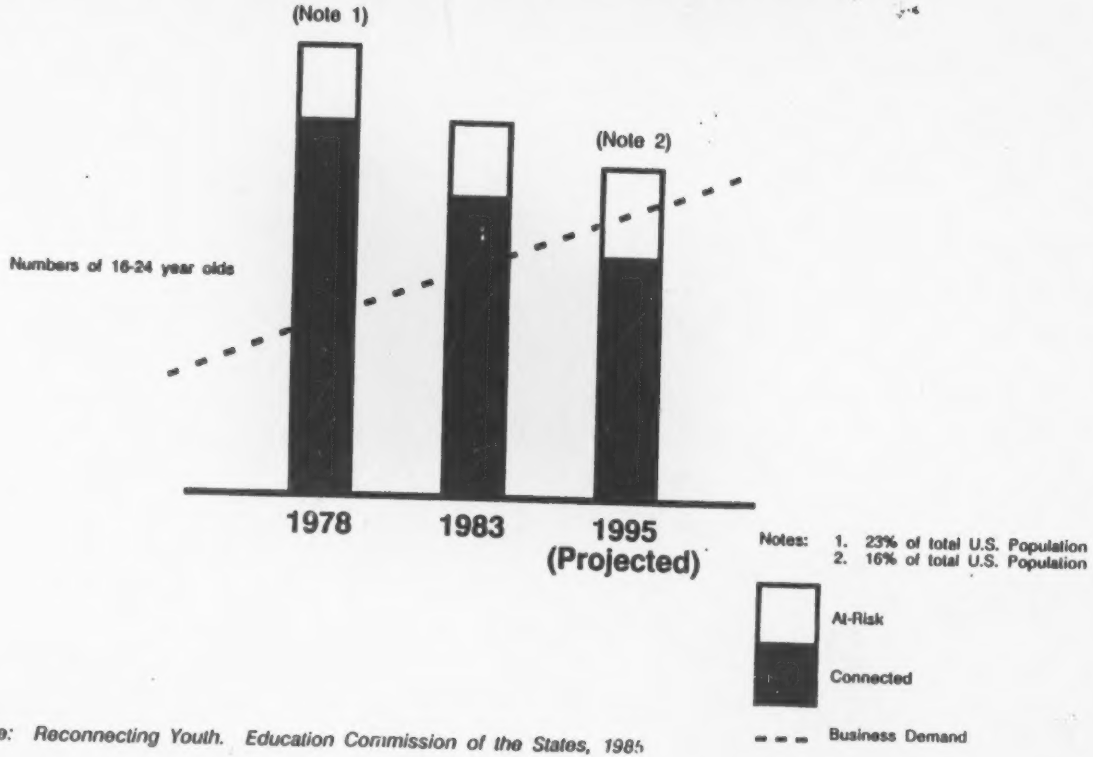
An American businessman and writer once said that "Human service is the highest form of self-interest for the person who serves". I believe this is true and incorporates the essence of the service-to-others concept. Individual, community and nation will all gain from its adoption. As you know, voluntary or mandatory service programs have been discussed by a host of national leaders since the early part of the century. While timing and circumstances were never quite right before, they may well be today. Maybe it's time now to move toward adopting the ethos of a "caring society" as fundamental to continuation of the American dream.

If the nation can be inspired to move in this direction over the next several years — testing and measuring efficacy of a variety of promising programs in a structured but aggressive way — then the schooling process should gain new and exciting relevance for all youth; we will have laid the foundation for a caring and service-oriented society so badly needed to meet demographic challenges; and we will have motivated the entire work-force to achieve new heights of productivity and competitiveness in the world marketplace. As the Army slogan goes, we will have learned how to be all that we can be ...

In a recent edition of "Foreign Affairs", perhaps one writer put it best when he cautioned that America is living off its past spiritual and material capital .. that the root of our problems today is that we have divorced freedom from responsibility ... and that our democratic society cannot long endure such a schism. But we can stop living off our past capital if we will each remember to carry out our continuing personal responsibility to freedom. And what better way to do this than for a coalition of committed and respected leaders to inspire a national self-renewal movement to achieve a new and enlightened level of personal excellence in American youth by the year 2000.

I commend you, Mr. Chairman, and your committee colleagues for your leadership in bringing this important linkage between youth and our national economy into proper focus. Thank you again for allowing me to appear before you today.

# DECLINING YOUTH POPULATION WITH AN INCREASING AT-RISK SEGMENT COMPARED TO RISING BUSINESS DEMAND FOR ENTRY-LEVEL EMPLOYEES



Source: *Reconnecting Youth.* *Education Commission of the States, 1985*

FIGURE I

Representative **Scheuer**. Thank you very much for your outstanding, thoughtful testimony, Admiral. It would be noteworthy from any witness, but it seems more remarkable coming from a man who has spent his entire life in the military and who has not been really exposed to the stresses and strains, and the challenges and opportunities in our political, economic and our educational systems.

So we admire you very much for the enormous thoughtfulness that you are bringing to this issue as a military professional. In fact, we wish we could clone you and find Watkinses for the other military services. Through the rapid advances in biotechnology and genetic engineering, we hope to achieve that. [Laughter.] In the meantime, we will hear from Stephen Cohen.

Stephen Cohen is a distinguished expert on international economics. He is director of the Berkeley Roundtable on the International Economy. He has been studying how we can bring our economy to a dynamic and vital state of effectiveness and competitiveness in the international trade arena.

We are happy to have your remarks at this time.

## STATEMENT OF STEPHEN S. COHEN, PROFESSOR, UNIVERSITY OF CALIFORNIA, BERKELEY, AND DIRECTOR, BERKELEY ROUNDTABLE ON THE INTERNATIONAL ECONOMY

Mr. **Cohen**. Thank you, Mr. Chairman. It is a pleasure to be here. I am also a bit intimidated. Following not only such distinguished people who spoke so well and have said everything I had to say, I don't know quite what to add.

I can summarize our competitive situation. It is on the board. I don't want to take much time.

In brief, how can you stay rich and powerful in a world where capital moves instantaneously and technology diffuses at incredible speed if you are dumb? And beyond that, I really don't have terribly much to say.

And we are becoming dumb, and everybody has said it here with verve and with information, and we are slogging miserably in the competitive realm. It's a disaster.

The little flip going up a few months here and there is not changing anything. Our position is the world is eroding in a fashion that as an American one finds disgraceful, and it is going to hit harder and harder and harder in the next years as the debt piles up, as the awareness sinks in.

Mr. Harris was saying the people of America say, "We have to change something; let's invest in ourselves." The Navy is saying, "My God, our competitive position militarily, our security rests on the same thing; that our skills as a nation are eroding."

I don't care if they're eroding absolutely or not. Competitively, they are eroding. The other guys are doing much better. That is the only measure that counts.

So beyond that, I am afraid, unexceptionable statement, I don't have much to say to make it clearer. Maybe I can make it a little more complicated. I am a professor, and I can respond in that direction. [Laughter.]

Representative **Scheuer**. We would expect no less, Professor.

Mr. COHEN. Yes. So what we are saying is that people want education. Everybody in all walks of life says, "I am completely dissatisfied with what is going on. We know it's important to our national survival, competitiveness, and dignity." Yet everyone feels trapped by institutions. So we can kick the educational bureaucracy a bit, which as an institution I think is eminently worthy of being kicked and perhaps blown up and reconstituted.

But, something has happened in the United States in the last few years, something very big. Just look at those charts. At the Berkeley Roundtable, we started following technology, not education. I am not an educational expert. I have taught for 25 years, but I am not in the education business. They are separate realms.

By following technology, we have come more and more to an understanding of skills. I don't even like the word "skills" because it is a very quaint. It smarts, education, both of individuals and in organizations, organized versions of it.

I would like to say our people are getting dumber than the competition, and our organizations are also, both as institutions and people. They don't know how to use and develop the skills, the intelligence of the people who are in them. American companies, by and large, are not creating more intelligent people, more opportunities for the growth of intelligence the way you can grow muscle.

Something big is going on, and we like to think of it as the U.S. economy is in transition. Now, the oldest academic joke has got to do with transitions: Mother Eve says to Father Adam, we're entering a period of transition. There is always a transition going on, and economics is all about permanent transition.

Nonetheless, sometimes things really change, and when they change, they change fast. It's not this steady, marginal change.

Maybe it is a marginal change, like in California, where I sit and write: Underneath it's moving marginally about 30,000 meters down at 0.001 millimeters per year, but when the change decides to manifest itself on the surface of the Earth, it happens abruptly and unpleasantly. I think that is what has sort of happened to the U.S. economy. We get an earthquake.

Representative SAWYER. It's like in our business every year is a watershed year but especially one where you have to run.

Mr. COHEN. Yes. And in a way we're having that in our economy.

I made a longer presentation. If anyone cares to, they can read it.

But a couple of things are changing simultaneously. Something called international competition. I remember we used to talk about the interdependence of the world. We meant all the other countries were interdependent on each other and they were all interdependent on us—we were interdependent on nobody. In the mid-1960's, 4 percent of GNP was trade; now, 70-some-odd percent of everything we make is trade impacted, and we celebrate the flight to services, that idea that our banks are going to save us, it's the other way: We will have to save our banks.

[The prepared statement of Mr. Cohen follows:]

## PREPARED STATEMENT OF STEPHEN S. COHEN

### Introduction

The U.S. economy is in a period of fundamental economic transition. The transition is being driven by two interrelated forces that we label the new challenge of international competition and the technology revolution. During the last decade, the U.S. economy has become increasingly open to international trade and capital flows. Trade as a share of gross national product has more than doubled, and major segments of both manufacturing and services are now exposed to intense foreign competition in the battle for domestic and foreign markets. At both the macro and micro levels, changes in foreign trade and foreign capital flows have become much more significant as determinants of domestic production and employment.

The challenges stemming from changes in the world economy and the U.S. position in it have occurred in an environment of rapid technological change. New microelectronics-based telecommunications and automated production technologies are now available for application throughout manufacturing and services on a massive and global scale. Indeed, the forces of international competition and technological change are not independent.

The new technologies provide the foundation for greater global interdependence. New telecommunications technologies underlie the increasing integration of world capital markets and permit much greater decentralization of production and distribution facilities across national boundaries. New production technologies permit efficient real product differentiation to national, regional and even local tastes, thereby making global markets accessible, while simultaneously permitting established industrial producers to remain competitive with low-wage developing countries in a range of industries -- thereby fostering greater global interdependence. In turn, the challenge of international competition is driving the development of the new technologies, the rates of their diffusion and, as important, the ways they are used. The effective utilization of new technology has become a major component of the strategies used throughout the economy to respond to greater competitive pressure from abroad.

How the U.S. responds to the challenges and opportunities posed by major changes in foreign competition and technology -- how it fares during this period of transition -- will determine its wealth and power in the international economy during the following decades. For the U.S. itself, nothing less is at stake than its standard of living and quite possibly the health of its democracy. For the world economy, the stakes are just as great -- continued U.S. support of the open international trading environment which it helped create after World War II.

The fundamental challenge confronting the U.S. during this period of transition is how to restore and maintain an internationally competitive high-wage economy. As labor increasingly becomes the only national factor not transportable across national boundaries, its price and its skills become the critical factors determining national competitiveness. If the U.S. is committed to providing high-wage employment for its domestic labor force, then it can remain competitive internationally only if its labor force has the skills, mobility and productivity to offset the effects of high wages on production costs. Educational policy which shapes these labor force characteristics will have a decisive impact on how successfully the U.S. responds to the twin challenges of new international competition and the technology revolution.

The transition confronting us sets the agenda of change, but there is nothing inevitable about the outcome: We can choose to have an internationally competitive, high-wage economy. In the following discussion, we will summarize ongoing BRIE work which supports these conclusions, and which illustrates how education policy may well make the difference between a successful or competitively lagging U.S. economy, a rising or declining standard of living.1

## I. First Premise: A Long-Term Economic Transition is Occurring.

### A. An Overview of the Technology Revolution

A fundamental technological revolution is underway. This revolution is inextricably entangled with America's adjustment to the changes occurring in the terms and nature of global competition. Together these two forces portend historic changes in the organization of industry and industrial production -- changes that will force hard political choices. Concretely, digital telecommunications and automated production in both manufacturing and services have the broadest implications for the evolution of the economy as a whole.

Innovative telecommunications technologies are creating a new infrastructure which will be as important to our era as the building of roads, bridges, railroads, and telephone lines were to earlier periods. This information transmission system will open new possibilities for product and service innovations, process innovations in both manufacturing and in the office, and a restructuring of the spatial organization of both work and living.

The basis of this new infrastructure is the merging of communications and computing which has occurred as the technologies underlying telecommunications and data processing have converged. Today,the telecommunications industry must be broadly understood to encompass the provision -- for information networking -- of terminal, transmission, and switching equipment, and voice, data, video, and facsimile services. The convergence is already changing the character of competition and altering the services and products offered. Equally important, it is making possible the development of a range of new industries and permitting existing ones to develop and market new products, particularly in the areas of producer and consumer services. Finally, of course, the viability of both factory and office automation rests on digital telecommunications networks.

In the factory, programmable automation is the technology which lies at the core of the transformation of manufacturing. The revolutionary potential of programmable automation flows from two kinds of inherent flexibility. Because it permits an automated machine to perform a wide range of tasks, this technology allows static flexibility - that is, a single arrangement of equipment can produce a wide variety of products. Because it permits automated equipment to be reconfigured on the shop floor, this technology also allows dynamic flexibility -- that is, rapid change of production processes to incorporate product or process innovations without expensive retooling.

## B. The Changing Position of the U.S. in the World Economy

Since 1981, the U.S. trade position has deteriorated massively. By 1983, the trade deficit was double the level that had prevailed during the previous five years and was nearly double the largest trade deficit ever run by the United States or by any other country. Between 1983 and 1985, the U.S. trade deficit nearly doubled in size again, reaching a record $124 billion by the year's end. Since then, it has climbed to over $150 billion. The U.S. trade position deteriorated sharply even in the high-technology products in which the U.S. is widely thought to have a comparative advantage. The U.S. went from a position of surplus in these products in 1980-81 to a position of deficit by 1985, and has stayed there since.

Massive trade deficits were matched by increasing inflows of foreign capital that covered the difference between the value of what the U.S. sold to the rest of the world as exports and the value of what it purchased from the rest of the world as imports. By 1984, the rate of U.S. net national borrowing as a percentage of GNP exceeded that of Brazil and financed over one-third of U.S. net national investment. As a result of huge capital inflows, U.S. liabilities vis a vis the rest of the world increased sharply, and by mid-1985 they exceeded U.S. assets in the rest of the world, thus making the U.S. a net debtor for the first time since 1917. In a few short years, the U.S. had squandered the accumulated foreign assets of 70 years as net creditor, to become the largest debtor nation in the world. The U.S. foreign debt has become, all by itself, a major constraint on America's ability to set its own economic policy; and it is growing at a terrifying volume.

Undoubtedly, macroeconomic factors were a major determinant of the deterioration in the U.S. external position during the 1980-85 period. Most economists believe that the dramatic appreciation of the dollar, attributed to massive capital inflows in response to higher real rates of return in the U.S., was responsible for more than one-half and perhaps as much as two-thirds of the growth in the trade deficit. More rapid growth rates in the U.S., compared to those in the other advanced industrial countries, (especially in Europe, a major market for U.S. manufactured exports) were also a contributing factor as was the debt crisis in Latin America. But in over a year and a half, since the dollar was pushed down as fast and as far as it earlier rose, our competitive position has not shown substantial improvement; certainly nothing that could be seen as symmetrical to its spectacular collapse in the face of the soaring dollar.

Our work at BRIE also indicates that the U.S. has had a long-term competitiveness problem dating back to the early 1970s. Evidence suggests that even in the absence of the unique and unfortunate macroeconomic circumstances of the last five years, the U.S. would have confronted difficulties in maintaining its position in international markets while simultaneously expanding the real incomes of its citizens.

There are several indicators of a long-term weakening in the competitive position of U.S. manufacturing, including the merchandise trade balance, domestic and world market shares, relative technological capability, relatively weak productivity growth, low rates of investment, low rates of savings, low returns on investment in U.S. industry, and a ten year decline in average real wages. Each of these measures highlights a different aspect of the American competitiveness problem. Together they suggest that most manufacturing sectors in the U.S. are having difficulty competing in world markets and that the American adjustment to changes in the world economy has been troubled. Against our strongest competitors, we are maintaining neither our manufacturing position nor our competitive advantage in high technology. At the core of the problem lies both a loss of manufacturing preeminence -- the skills involved in using new technologies -- and a declining technological advantage on which competitive position in R&D-based sectors rests.

In this context it is important to note that restoring our lead in technological innovation without addressing our decline in manufacturing skills is not a sound policy mix for future economic success. As a result of the greater international mobility of capital and the transportation and communications capabilities of the new technologies, the rate at which technological innovations diffuse across national boundaries has quickened. In this new environment, the ability of an innovator to capture the returns to a new product or process technology depends not simply on being the first to market but on remaining competitive in international markets as the innovation diffuses to other producers and locations around the world. For the U.S., the implication is clear: maintaining or strengthening its comparative advantage in technological innovation will be an insufficient foundation for future growth in national income and for improving external performance; an improvement in the competitiveness of manufacturing capabilities will also be required. Otherwise, nations with stronger manufacturing capabilities will be able to appropriate a greater share of the income, employment, and the learning opportunities resulting from U.S. innovations.

## C. Manufacturing Matters: The Myth of the Service Economy

One conventional reaction to evidence of a long-term decline in the competitive position of the U.S. economy, especially in the manufacturing sectors, is to argue, as the Reagan Council of Economic Advisors has done, that as the rest of the world catches up to the U.S. in basic manufacturing technology, our comparative advantage -- in the sense of classical economic theory -- is naturally shifting into service industries. Until recently this view was supported at the macroeconomic level by the fact that increases in the manufacturing trade deficit were offset by growth in the U.S. trade surplus in services.[2]

There are several problems with this line of reasoning. The first is that if we exclude dividends and other debt service payments on U.S. and foreign loans and investments, the actual volume of service exports remains very small relative to the volume of goods exports.Second, even services which are actually traded, such as computer software, or production engineering, or satellite launchings, tend to depend heavily on related manufactured products, so that if the U.S. loses competitive position in these products, it will also sooner or later lose market share in the services which these products support or generate. Third, in several large scale services, such as banking, the competitive position of American banks -- with their uniquely weak balance sheets -- is not necessarily superior to that of American manufacturers. And fourth, it is unlikely that the service sector can provide the kind of high-productivity, high-wage jobs on which the continued high standard of living of the U.S. economy depends.

We thus take issue with this school of thought. We believe that the evolution of the economy cannot be adequately discussed in terms of its categories and hypothesis. In direct contrast, we posit the central importance of a broad and strong manufacturing sector to the wealth and power of the United States.

At the heart of our argument is a notion of linkages of jobs, that is, a large number of highly paid service jobs depend on mastery and control of manufacturing.[3] While this stands out boldly in our industry investigations, it does not come through in the conventional presentations of employment data. Most often the dominant view is presented in terms of an attractive and familiar historical analogy: we shifted up and out of agriculture, and now we will shift up and out of industry into services and high technology. The fact, however, is that we did not quite shift out of agriculture. We automated it and upgraded its skill content. Indeed, educational policy played a major role. And the famous figure -- that only three million people work on the farm and not only feed us well but produce staggering surpluses -- is somewhat misleading. Our studies reveal that there are at least another three million (like livestock veterinarians, crop dusters, machine maintenance and food processing workers, etc.) in jobs tightly linked to on-shore agricultural production. 'Tightly linked' is not a multiplier relation, nor is it an input-output relation; we use it to mean that if farming went off-shore, most of these jobs would disappear and reappear off-shore.

If we turn from agriculture to industry -- where the base of direct employment is not 3 million but 21 million jobs -- even a remotely similar "direct linkage rate" radically changes the meaning of most interpretations of the place of manufacturing in our economy. And it would radically change the drift of policy suggestions toward encouraging, or at least not worrying about, the shift out of manufacturing. Manufacturing employment would not be discussed, as it now is in conventional economic presentations, as something that accounted for about one-third of all jobs in 1953 and is now down to about one-fifth and doomed to continue down that trend line. Instead we would have to say that the particular organizational structure of manufacturing production in the U.S. (and probably in most other highly advanced economies) makes the employment of perhaps 40 to 50 or even 60 million Americans, half or two-thirds or even three-quarters of whom we count as service workers, depend directly upon manufacturing production. Again, depend is used to mean that if manufacturing goes off-shore, related service jobs go with it. Value added probably follows in rough proportion.

Examples of such closely-linked activities include design and engineering services for product and process, payroll, inventory, and accounting services; financing and insuring; repair and maintenance of plant and machinery; training and recruiting; testing services and labs; industrial waste disposal; and the accountants, publicists, designers, payroll, transportation and communication firms who work for the engineering firms that design and service production equipment, or the trucking firms that move the semi-finished goods from plant to plant, up the links of the manufacturing chain.

Manufacturing, then, is critical for a number of reasons. First, as argued before, where capital and technology are highly mobile, the ability of innovators to capture the rents due them will depend increasingly on retaining mastery over manufacturing. Second, some 21 million Americans work in manufacturing jobs that on the average are higher paying than service jobs. While this number may continue to shrink -- a result of the devil's bargain between automating or offshoring production -- this is not a sound argument for abandoning manufacturing. This is particularly so because, third, over successive rounds of product and process innovation, we will lose a substantial core of higher-paying service jobs if the manufacturing core goes. The rest of the service economy -- the health workers, haircutters, waiters, tax collectors -- will not be directly affected. But, our fourth point, their real wages will decline substantially.

Finally, it is important to emphasize that the restoration or maintenance of manufacturing skills and quality matters not just in a few "high-tech sunrise industries." In our view, the doctrine of shifting out of "sunset industries" (defined variously as including textiles, steel, autos, machine tools, computer circuit boards, typewriters, printers, and the like) and into "sunrise" industries of the future (which are defined even more variously, but always include biotechnology, microelectronics, optoelectronics, computers, telecommunications, and software) is misleading.

To do violence to a complex theme, for the most part, the high-tech industries employ few people directly. More importantly, they largely make producer goods, not consumer goods. Who will buy a bag of silicon chips if not American manufacturers putting them back in their product or in their production process? High tech does not define the nature of a product -- an EEPROM or a valve -- it defines the way the product is made. It also alters the skills required to make it, design, and often, use it. Very soon, the U.S. will have only high-tech industries because only producers who successfully adopt the most advanced product and production technologies will survive.

## D. The Problem Re-Stated

There are no simple or natural solutions to the problems confronting the U.S. economy, no easy moves from sunset to sunrise sectors nor out of manufacturing and into services. We face a transition driven by international competition and new technologies. Our challenge is to use the new technologies competitively in production, to maintain high wages in a permanent process of upgrading work and employment to higher value-added. Our problem is how to master continuous adaptation in a competitive environment whose critical characteristics are rapid change and uncertainty.

In confronting this problem the U.S. is much less well positioned than some of our toughest competitors, for a defining characteristic of our industrial experience over the last half century has been stability rather than rapid change. Indeed, U.S. dominance post World War II was built on a stable political environment, large-scale application of stable mass production technologies, and overwhelming U.S.technical and economic leads. By contrast, Japanese competitors are better positioned in this environment by virtue of their past experience. One of the primary reasons Japanese companies seem to be doing so well in international competition in a range of different sectors is precisely that their institutional modes and strategies -- and critically, the associated skills in their management and work forces -- were shaped during 30 years of very rapid growth and the need for continuous adaptation and response to the ever changing uncertainty that rapid growth implies. Those institutions and strategies and work force skills now stand them in very good stead as change and uncertainty come to dominate international markets during the current transition. This means that U.S. firms and the U.S. labor force -- from management to line and office workers -- must become similarly flexible and comfortable with rapid change if the U.S. is to maintain a leading international position.

**II. Second Premise: The Quality of a Nation's Work Force will be Determinative of Competitive Success in the Application of New Technologies, Particularly in a World where Technology and Capital are Mobile.**

In a world of increasingly mobile factors of production (with technology and capital moving rapidly across national boundaries), our work suggests, the competitively successful application of new technologies to production rests on the development of a broadly well-educated, highly skilled work force -- because only that kind of labor force is adaptable enough to adjust with change, and proficient enough to make optimal use of the new technologies to competitive advantage. In short, a highly skilled work force permits increased choice in the use of new technologies -- and choice is critical to generating success in international competition.

However, the distant and disembodied force of technological development driven by competitive pressures will not unilaterally determine the kinds and number of skills that a competitive U.S. economy requires. Skill requirements -- the market's demands for labor -- will be significantly shaped by skill availabilities, but not only in the static, conventional sense of markets always clearing at some price. Rather, our studies suggest the hypothesis that the availability (or scarcity) of skills shapes competitive strategies as well as the development of particular technologies.

This has always been the case.We can see it as far back in the American past as in the origins of the mass production of muskets, an organizational and technological response to perceived shortages of craft skills. Former Labor Secretary Ray marshall has observed a similar phenomenon in the period after World War II. He argues that the GI Bill played a key role in creating a supply of well-educated workers that shaped a demand for their skills. Employers preferred to hire the educated workers, and redesigned jobs to exploit their available skills. A similar adjustment to skill availabilities also occurred during the 1960s when highly trained solid-state electronics engineers -- the result of government grants to graduate engineering education during the 1950s -- began to enter the labor force in significant numbers.

Similarly, our research and the work of others suggests that across the industrial spectrum, competitive mastery of the new technologies rests on successful employment of workers' skills. In continuous-processing plants, for example, microprocessor-based instrumentation generates a large integrated data base. To maximize the power of the technology, workers have to be able to monitor, analyze, and intervene in the continual flow of electronic data; they have to "both theoretically apprehend the data and convert their understanding into articulate prose in order to communicate it to others." Similarly, metal workers using computer-controlled machine tools need to rely on a reservoir of craft skills to prevent disastrous breakdowns and bottlenecks in the production process. In white collar industries, the introduction of office automation technologies makes it possible for clerical workers to assume functions formerly reserved for professionals -- but only if they are sufficiently skilled to use the new technology and sufficiently educated to understand the new functions. Even the speed of change itself places new demands on the work force, requiring that it adapt continually to new products and new processes.

Skill availabilities and the general level of education thus interactively, rather than statically, shape demand for the skills and know-how required to successfully implement new competitive strategies and new technologies. In short, our work suggests that the skill and knowledge base of our economy -- in addition to being a major competitive asset -- is also a major determinant of the technological and competitive evolution that itself determines demands for skills. Indeed, we go further: because this is the case, educational policy that develops a highly skilled and educated work force can create an enduring comparative advantage for the U.S. in the production of goods and services which embody that labor.

How well we do is indeed a matter of choice, for there is nothing determinative in the development and use of the new technologies: When you go down to the sectoral level as we do in our work -- and as must be done if you are not to be mislead -- the most striking point is that identical technologies -- even down to the choice of specific equipment -- can be used in radically different ways with radically different competitive (productivity) results. This is true both in manufacturing and services.

Direct comparisons in the 1970s of French and German plants producing equivalent goods within the same firm demonstrate convincingly the wide range of work and job arrangements possible within the constraints of a single technology. Our studies of plants in the U.S. using programmable automation show that managerial efforts to control production often lead to increased centralization and elimination of skilled jobs, but there is little indication that this centralization derives from technical necessity. In other cases, production teams or quality circles have been allowed to direct the organization and flow of work at each stage of the production process. Labor productivity has increased markedly as these same technologies have been employed to enlarge shop-floor responsibility for the manufacture of quality products.

If the prices and availability of raw materials, and the costs of capital, become less and less factors in differentiating production possibilities and costs across nations, and if how you organize and use the technology really matters, then the big burden is placed on labor, very broadly defined. The level of skill (perhaps education or "productive smarts" are better words), and the flexibility, robustness and astuteness with which that intelligence is organize and mobilized, becomes the critical differentiating factor. After all, abundant and rich land is not a relevant consideration in advanced manufacturing and services. Infrastructure (once defined narrowly as water, rails, roads and wires) is, of course, vital. The old elements are still important. Yet nowadays, telecommunications is becoming the key infrastructure. But telecom, however enhanced, is more than a physical and software network. Ultimately, productive use of that infrastructure depends upon the "quality" of the person on the other end of the line. And that takes us back to the new economics of educated and organized "smarts," which treats ambient intelligence as infrastructure as well as personnel.

Put more formally, as the division of labor becomes more and more complex -- and that, after all, is what the colossal growth of producer services represents -- the productivity of any worker, or any firm, depends on that of workers in other firms. They provide not a simply priced, bought and warehoused input, but they are integrated into production "on line." The productivity of a doctor, for example, is substantially a function of the ability of the patient to describe symptoms accurately and quickly and understand complex instructions the first time through. Similarly, a travel agent's productivity is substantially affected by the speed and clarity with which the client can specify itinerary and lay out trade-off preferences between price, comfort and convenience. Accountants, lawyers, financial advisers and consultants of all sorts confront similar "interdependent" production functions. Production resembles less and less a factory with "workers" working lock-step and more and more an on-line network. Educational levels (to use a short term for something more complex) outside the firm as well as inside become an environmental or infrastructural variable, and a key determinant of productivity and comparative advantage.

## III. Third Premise: Organized Smarts will be Determinative of Competitive Success in the Current Transition: An Educated, Skilled Labor Force Broadens rather than Forecloses Choice in the Competitive Development and Application of Technologies, and Permits you More Rapidly to Get New Technology into Place More Cheaply.

A strategy -- for a company or a nation -- that rests on seeing new technology as a substitute rather than a complement to a skilled workforce will only lose in international competition. In that sense, the Japanese have used a skilled work force as a kind of R&D lab for automating production and experimenting with the reorganization of production to competitive advantage.

By contrast, despite wide variations, U.S. firms seem to place much less value on the superior productivity potential of a skilled work force than some of our competitor nations, most notably Japan ad Germany. As a result, U.S. firms tend to introduce technologies in a way that deskills, or eliminates the need for skilled labor. There are many explanations for this phenomenon. The first is simply skill shortages. For example, U.S. semiconductor firms have compensated for shortages of skilled design personnel by automating the design process, and have accelerated applications in the face of shortages of silicon engineers in user industries by embedding more and more functions on the chip. Similarly, numerically controlled machine tools being introduced in the U.S. often eliminate worker control partly in response to a perceived growing shortage of skilled machinists. A second, and corollary, explanation is that were U.S. firms required to absorb the full costs of training skilled personnel they might not capture the full benefits. Indeed, U.S. firms have been more likely than many of their competitors to chose short-term, lowest-cost strategies that avoid the need to train and re-train workers. Finally, a long legacy of labor-management hostility and a strong tradition of Taylorism in the U.S. predisposes managers to adopt a deskilling strategy. The middle managerial ranks -- whose function tends to be threatened by strategies that rely on shopfloor decisionmaking -- are particularly strong in American firms, and resist increasing skills (and hence, power) on the shop floor.

Countering this pressure to reduce the skill content of jobs, however, is the fact that job loss seems disproportionately concentrated in the lowest levels of the occupational and skill hierarchy. Our trade and employment study found that potential job loss has been greatest in labor-intensive industries, and potential job creation has been greatest in technology-intensive industries. Even in high-technology sectors, foreign competition leads to job displacement in the production of labor-intensive, easily transportable, relatively standardized products in which competition is based mainly on price. The types of workers most susceptible to job displacement from foreign competition of this sort are relatively unskilled, low-paid production workers, a disproportionate number of whom are minority and female. By contrast, job creation from trade in high-technology industries is greatest for skilled scientific and engineering workers who are highly paid and have relatively secure jobs.

Our factory and office automation studies also made it clear that in a wide range of industries, from automobiles to telecommunications equipment to insurance, companies are transforming labor-intensive production processes into capital-intensive ones. The result is an elimination of many low-skilled jobs and an increase in demand for skilled workers. Pressed by low-cost producers, for example, one of the few domestic producers of telephone handsets has turned to state-of-the-art automation. The aim is to reduce its manufacturing costs and assure quick response on the production line to product and process innovations, service requests from customers, or shifts in market demand requiring substantial alterations of the company's product mix. There were two complementary results: the firm's engineering staff increased five-fold in just two years while, at the same time, 700 production workers -- about 40 percent of the company's production work force -- was dismissed.

Similarly, in the insurance industry, the introduction of sophisticated information systems is resulting in significant labor shedding of lower level clerks, at the same time that technical occupations are growing rapidly. These findings correspond to aggregate employment projections which expect declining operative and clerical employment in highly automated manufacturing and service industries.

Indeed, our work suggests that, despite some labor-shedding, new production technologies require the development and diffusion of new skills throughout all levels of the work force. Although increasingly sophisticated, microelectronics-based production equipment reduces the need for some skilled employees, such as welders and painters, it promotes job opportunities for a new class of mechanics and repairers whose work requires continuous high-level training in the ever-increasing complexity and sensitivity of the equipment they maintain. Engineers and technicians need to learn how to use video terminals and computer techniques for the design of electronic circuits and equipment at the same time that their increased productivity is reducing the need for skilled drafting employees and certain types of technicians. In general, the replacement of electromechanical controls (switches, timers, etc.) with microelectronics circuits increases demand for highly-skilled scientists, engineers,and technicians while reducing the need for less-skilled assemblers and machine operatives.

More generally, the very speed of competitive technological change creates a need for a flexibly and broadly trained work force, able to adapt rapidly to new technologies and new production processes. For example, much of the work in computer-mediated or computer-controlled production processes involves constant monitoring of machines and interpretation of output data. Workers have to be sufficiently familiar with the entire production process, and broadly skilled to interpret the constant flow of information from the computers, identify potential problems before they occur, and manipulate the systems to correct these problems.

There is, in fact, a real risk that the pace of technological change will outstrip the capacity of the existing education and training systems to keep workers' skills up-to-date. On-the-job or vocational school training tends to focus on transmitting rather narrowly defined skills tied to specific job tasks. But as technology keeps both discrete tasks and whole jobs in a state of tumult, the relevance of specific training declines. Hewlett-Packard Co. has found that even when the company worked closely with local community college job training programs, students emerged with a complement of skills appropriate to the preceding generation of production technology. Even the in-house training program suffered from the same problem. This suggests the hypothesis that solutions lie in replacing specific skill acquisition with education broad enough to enable workers to move flexibly among technological generations.

## IV. Conclusion

The outcome of America's passage through the industrial transition need not be exclusively the affair of impersonal and imperturbable technological and economic forces. But, just because we have a choice about our future does not mean that we will take advantage of the opportunity, use it well and even enjoy the freedom and responsibility choice provides. We have a political system which we cherish that is artfully constructed to avoid clear choices. And we have an economic ideology based on a notion of choice, that minimizes the opportunity and desirability of making important, strategic ones.

Our research suggests that there is a spectrum of possible economic futures open to us. At one end lies an internationally competitive U.S. economy in which highly productive, skilled workers apply their abilities to make use of the new technologies and flexibly produce a broad range of high-quality, valued goods and services, They thereby earn the high wages necessary to sustain both the standard of living to which some Americans have grown accustomed and most aspire, and the open society that has been so closely linked with a strong and open economy. At the other end of the spectrum lies a real danger of a competitively struggling economy in which a small minority of high-skilled research, development and services jobs coexists with a majority of low-skilled, low-wage jobs and massive unemployment. Living standards -- perhaps along with social equality and political democracy -- would deteriorate rapidly as, in order to compete, manufacturing and services move off-shore and automation strips the labor-content from the remaining U.S. goods and services.

The transition sets the agenda of change, but there is nothing inevitable about the outcome. If we can produce from our system of education an appropriately skilled workforce, our traditional inventiveness will figure ways to implement successful competitive strategies premised on those skills and able to pay high wages. If we fail in the education task, no amount of inventiveness will arrest the decline in our standard of living. The choice is ours.

## Footnotes

1 See, especially, Stephen S. Cohen and John Zysman, Manufacturing Matters: The Myth of the Post-Industrial Economy (New York: Basic Books, 1987), Barbara Baran and Carol Parsons, Technology and Skill: A Literature Review (Berkeley: BRIE, 1986); B. Baran et al., The Transformation of the Labor Process in the Insurance Industry (Berkeley: BRIE Working Paper #9, 1985); L. Tyson et al., Trading for Jobs: Dynamics of Trade and Employment (in press, Ballinger Publishing); Jay Stowsky. The Weakest Link: Semiconductor Production Equipment, Linkages and the Limits to International Trade, (Berkeley: BRIE, 1987); and Michael Borrus, Microelectronics and the Restoration of American Autonomy and Growth (in press, Ballinger Publishing).

2 Of course, when the U.S. became a debtor nation, the U.S. trade balance in services turned sharply negative. This services deficit is certain to persist for quite some time as interest payments flow out from the U.S. and will, therefore probably prompt its long overdue reclassification out of "services" and into a seperate category.

3 We use jobs here as a proxy for productive activity. Below we define our concept of linkage. Our point is that if the U.S. loses a substantial portion of manufacturing, a large range of linked service sector activities will also necessarily be lost:the U.S., in our view, cannot hope to retain leadership in most high-wage service sectors without also retaining leadership in manufacturing.

Representative SCHEUER. Professor, we are rollcall-vote impacted up here. So we are going to suspend this hearing for about 12 minutes to catch this roll call vote. Then we will go on to questions.

[A 12-minute recess was taken.]

Representative SCHEUER. We apologize for the break and beg your indulgence.

Mr. Harris, you gave us a very eloquent statement, among other things, refreshing our faith in the American people. It is encouraging to hear that they do support significant change, drastic change. I hesitate to use the words "radical change."

You have related to us that the American people do support massive change in the education system. They see this not as protectionism, however, but as an answer, and the answer is to get our act together and to be able to compete out there freely on a level playing field.

You also say that the American people are willing to pay for it. Now, if you applied your 2 percent of payroll to gross personal income, you would have about $60 billion or $70 billion a year. We could do a lot with that $60 billion or $70 billion in educational payroll tax.

It is heartening to hear that the American people would support that. But there is a considerable body of evidence that that would cast doubt on that statement. For example, we are having education bond issues turned down all the time.

As former Speaker Tip O'Neill, one of the greatest practitioners of the art of possible politics, used to say, all politics is local, and Tip O'Neill, through the dint of his leadership, prestige, and conviction, really prevented the Democratic caucus from taking a positive position on the need for a tax increase. His position always was, "You can't take the chance. You've got to let the President speak out first. Then you can do it."

In view of the contemporary wisdom that the voters are apparently opposed to increasing taxes and, in fact are looking for a tax decrease, are you really sure that the American people would be willing to dip into their pockets for 2 percent of the payroll, $60 billion or $70 billion a year?

It would be an enormous lift and energizer to education change, if we could count on their being willing to bite the bullet and pay—to put their money where their mouth is. How can we be sure of this?

Mr. HARRIS. Mr. Chairman, let me give you a three-part answer to that.

First, on the bond issues, we've looked into that. It's research we've done and found this: that by and large, bond issues across the country are put out locally by local school boards and are viewed as if you vote yes, you're endorsing the current school system.

When you get an up-or-down vote like that—because we get it in our polls—you get a majority who vote no. The reason they vote no is, they say, "Hell, no, let's not keep what we've got, let's change it."

If you put change on the line and you say to people, "Are you willing to put up your hard-earned money that you don't have in order to get this kind of change in the education system," that's when you get to them to say yes.

Now, go to the broader question about taxes. The former Speaker, as you know, is a dear friend of mine as well as yours, and we had long discussions when he was sitting here as head of this August chamber. If you ask people about a tax increase up or down by rote you will get 7 out of every 10 people say, "Of course not."

You have got to again make tax increases functional. First of all, let's take one that is critical, the deficit. People are very worried about the deficit in this country, and just willy-nilly, I think contrary to what a lot of people here on Capitol Hill believe—that they're not worried about it, all they care about is, I might say, some supply-side Republicans like Congressman Kemp and I have argued about this—say that people don't care about deficits. They do care about it.

What they want, if you are going to do something about the deficit and raise taxes, they want to be sure that the money that is raised to cover the deficit isn't used for a hell of a lot of other things.

Where Mondale made a terrible mistake in 1984 when he said, "I'm going to be honest, we're going to have to have a tax increase." It took him 6 long weeks after he made the statement to say, "What I mean is that those taxes will be raised and can't be used for anything but debt reduction."

People will not give the Congress, Mr. Chairman, any kind of carte blanche to say go raise taxes and we will trust you to use them properly. That is what they worry about. You have lost your credibility when you say, "Give us general revenues and leave it to old papa here to do the job right." They don't believe for a minute that you will.

What you have got to do is spell out in very particular terms the parameters of what you want to do and then lay it on the line.

I am not suggesting for a minute that you make earmarked increases, but we have reached the point, let me tell you, where people feel they have paid their dues toward rebuilding the strength and the defense of this country so that while 71 percent in 1981 wanted to increase military spending, right today it is no more than 14 percent—the most precipitous drop I have ever seen.

Why? Because they say, "We've put an enormous amount of money"—people aren't so stupid, they realize what I call the "Jaws" effect of Federal spending, and correct me if I am wrong in this Admiral, I am not an expert in this and I am sure you are, but once you get authorizations it then goes out like a big funnel, it increases automatically.

So when you say, "No more increases," as to say the budget, now before the Congress says, "No more increases in military spending," you are going to get indeed actual dollar increases.

But the point is people say if you have to take it out of something, take it out of the military increases and give it to things—like education—which are going to be out national survival.

Mr. Chairman, I think it's there if you all have the courage and you have the guts, to put it bluntly, to be able to get up and say, "We are willing to tax you to do these things," but don't cop out by saying, "We just want a tax increase," willy-nilly. If you do that, then, sure, you're going to get an easy "No."

Representative **Scheuer**. Congressman Tom Sawyer of Ohio.

Representative **Sawyer**. Thank you, Mr. Chairman.

Let met touch on something that has been of specific concern to me, and then I want to go back to a broader question.

Admiral Watkins, you spoke about the enormously important human reclamation program that the Navy began under your guidance, and in the interest of a lot of other groups, I suspect, particularly among youth who are at risk. One of the things you mentioned was that we simply cannot throw away as unwanted the chaff of society.

This fall, it is my understanding, the Department of Defense is preparing to put in place a recruitment policy which would treat graduates of nontraditional pathways to high school diplomas as nongraduates for recruitment purposes in the Armed Services.

It has seemed to me that large numbers of these people are, particularly those who went through the best of the alternative programs, are among the most motivated people in our society, because they went beyond the normal pathway, found a way back, did it on the strength of their own.

Well, while I am perfectly prepared to concede that not all of those programs are of the same quality, it seems to me we are sending exactly the wrong message with that recruitment policy, a message that applies the face-of-the-elephant argument that you offered today. How can we address that kind of anomaly?

Admiral **Watkins**. I think that the services are going to have to share in the public-private partnership effort I talked about. While those individuals you described will enter the military and attrite at a greater rate than the high school diploma holder, I think the military has to deal with them within the public sector just as the private sector has to deal with them. The largest growth industry in the Nation is the reeducation and retraining of young people entering the work force. We are a part of society in the military and I think we should share some of society's burden. However, when the military needs help in support of new programs for motivation or remediation of new recruits from these sources, then Congress should be sensitive to their pleas for funding support.

My feeling is that if you package it up in that kind of a way, then it should be accepted by the military, because they have to be part of the solution and not part of the problem. And I think people like Senator Nunn, particularly during the period of time that he was chairman of the Manpower Subcommittee in the Senate, where I testified for many years, would agree that it was extremely important that we be able to deal with a cross section of all American youth who want to serve in uniform. We have to take them. In so doing, we recognize we must do whatever is necessary to rid them of their own personal problems, including loss of self-esteem and motivation, and take advantage of the potential that underlies. I think it's essential that the military does that.

We can't be so competitive with the private sector that we fail to recognize them as an equally key part of national security. It's a big part. So if the military wins in by getting all they ask for—recruiters, $100 million for the "Be all that you could be" television ads and the like—that's all good. But wait a minute, if we win, doesn't everyone lose along the line Secretary Brock mentioned? The answer is "Yes."

So, this is something the Congress needs to look at in a very balanced way to see if the military and the private sector shouldn't work closer together to build up the base of qualified youth and hence, avoid demanding one out of every two qualified males in this country by the end of this decade. I don't know how we're going to do that. We've never done it in the past. But as long as requested funds are provided, the military will continue to win. They have a mandate to make the all-volunteer force succeed and their budgets are submitted accordingly.

So this is the kind of balance that must be found. I am on your side on this one. I believe the military has to take the young people in that are motivated for service and then make them productive American workers.

Representative SAWYER. Thank you very much, Admiral.

I understand we are running short of time here, Mr. Chairman.

I have a further question. Are we going to go on? Well, let me then address this next question both to Mr. Harris and Professor Cohen.

The Federal Government, as we all know, has never had the kind of presence in the development of education throughout this country that we have seen over the last century. This standard of education really has become a model for the rest of the world.

But there has been one basic difference in the last 40 years: Most of the industrialized nations of the world that have copied our model have not done it piecemeal, developed it in an evolutionary fashion as ours did over the last 100 years. And rather than having more than 15,000 local government structures for education throughout a comparably sized population, they have really made it a cornerstone of an economic policy, the cornerstone of defense policy. It is absolutely clear that the American tradition values the importance of that local/State government in education.

How do we build a Federal role that is sound and responsible, capable of addressing the enormous diversity in this country, and achieve that measure of change that everyone supports but I suspect is defined a little bit differently in each one of those many thousands of jurisdictions across the country?

Mr. HARRIS. Sir, may I comment on that just briefly? I think, first, one of the interesting things I saw with my own eyes, and the Carnegie Forum people even more, is the change that took place among the Governors of this country. I can tell you categorically that it was the Governors acting in concert nationally at their national meetings, like a year ago this August at Hilton Head, that gave both courage and impetus to the individual Governors to be there and take on programs in their States and then in their localities, working with the mayors and the county executives and all the rest down the line, that I don't believe you would have had had you gone about it and said let's do it individually, you see, one by one.

I don't think the Federal Government's 8 percent share of the Federal aid to education will change a great deal. But how you use that 8 percent in terms of giving some leadership, some focus, because we are a national nation, we are not a nation that is so atomized that we have tribes roaming loose in different parts of the country.

This is viewed as a national problem. Unless we get some leadership from here, you are going to find a lot of people when you get to the end of the chain, down to the least common denominator in some town of 200 or some city of 200,000, they need role models and they need people they can follow. So I think you are in a pivotal position to take leadership.

Let me take comment on that 8 percent. If you start cutting it, you are going to see screams like you never heard before.

Representative SCHEUER. You are talking about role models. Are the American people prepared for the Federal Government to be a role model in education, for example?

Mr. HARRIS. Mr. Chairman, people know that education is public, government business. The public school system is the very heart of education in this country. Make no mistake about it. In fact, even on the secondary level, higher education, there is no doubt about it. The State universities and colleges have come along in recent years to totally dominate.

I will fight hard to keep private education going in this country, but there is no doubt about it, it's in the public domain. Education is it in terms of being the Government. It doesn't mean government is going to dictate to education. But unless the Government gives the leadership to it, the leadership won't be there.

Representative SCHEUER. And do the people feel that there is a major Federal role model role?

Mr. HARRIS. Mr. Chairman, we are in a vast change now, a sea change, Mr. Chairman.

Representative SCHEUER. I say that, Mr. Harris, because after 200 years of experience people feel comfortable with education being a local and State responsibility.

Mr. HARRIS. It will be done at the local level or not at all. The point is that is where the people are educated. But, Mr. Chairman, let me say, faster than I think a lot of people think, people are beginning to rediscover a very constructive role for government in this country, after 6 or 7 or 8 years, I suppose, by 1988 of quite active separation from that thought, people are coming back with a vengeance now toward realizing that the Government better do something.

I can document that. I will give the answers of a poll, not my own but Mr. Gallup's organization, done in the middle of last year, June 1986, where for a year they traced what should be the role of government.

There are three alternatives that they give. One is, in effect, "Government ought to get off the back of the private sector and let there be less government." Between 1978 and 1982, the number who said this wanted this option up by 16 points.

The middle option was, "Well, let's keep government. Some presence but not too much. But let's stay pretty constant over the years." 25 percent.

What you got between 1978 and 1982 was a decline of 15 points in the number of who said government should be more active and especially on behalf of those who can least help themselves. Between 1982 and 1986, you had a complete dramatic turnaround, where the number of who opted for the first alternative, "Less government, get government off the back of the private sector," went down by 17 points and the number who opted for alternative three, more active government, went up by 16 points.

We have gone back and checked that in a variety of ways. And what Gallup found is absolutely correct, Mr. Chairman.

Now, this is selective. It doesn't mean people want a spate of government regulation on such things as they have seen in a lot of the economic areas. But I will give you a couple of examples. People are scared stiff of air safety now. They want more government there. They are scared stiff that they are sitting on toxic waste dumps, they want government into that. People are unafraid, where before they had great hesitancy, unafraid to say, "Amen, let's have government back, and in some areas, government with a vengeance," and one of these is education.

Representative **Scheuer**. I have to say that on the Health and Environment Subcommittee on which I serve, acting on a whole variety of consumer health and environmental concerns, we are constantly quoting a pollster by the name of Lou Harris who says that people may not like government, and that they want government off their backs. However, when you ask them do you want less consumer protection, do you want less health protection, do you want less safety protection, the answer invariably is, "No, we want more."

I yield to my colleague, Tom Sawyer.

Representative **Sawyer**. Mr. Cohen.

Mr. **Cohen**. It is not an area in which I have great expertise, but I certainly agree in general with what Lou Harris was saying. There is a huge role, not just for government. I think the question is really addressed to the Federal level, to Washington; that the governmental role at the local level, that remains dominant, it is clear.

So what can Washington do? I don't think that Washington by itself can set out too many models; that is, go with the school business. And I am not a great believer in too many kinds of programs. I have never liked programs.

You need something bigger than a program for this. You've got to make some changes. What can Washington do? Washington has two parts. There is a President, and there is a Congress. We're going to get a new President. I don't know who it's going to be. But the Congress can certainly prepare the soil, as the Japanese industrialists say, for the new President—that is, force his hand, whoever he may be.

Representative **Sawyer**. We have today's hearing as part of that process.

Mr. **Cohen**. Let's hope. The first thing is really a change in the atmosphere. I think what Lou Harris is saying is that people are willing to pay a lot more for good education, but they don't feel they get it by just paying more for education. That is the trick. You need a new product, something people believe is going to help. They don't like their kids being ninnies.

Representative **Sawyer**. It seems to me we could describe outcomes, outcomes that set a standard by which communities all over the country can begin to judge the quality of advanced performance of their own institutions.

Mr. COHEN. Yes. Some yardsticks, some public awareness of how other guys are doing better than we are. Most people in America always think we're doing better than most people in everything, and it will take a long and painful process to change that.

I work with a lot of industrial groups who by the time they realize they have a problem, they've already lost half their market, and it takes a while for it to set in. But that's something we can do, an awareness and an atmosphere change.

Representative SAWYER. You have done a great deal of international consultation. Can you describe the similarities or differences that you encounter in terms of the relative willingness of other either emerging or industrialized nations to invest either in capital investment and productive capacity and the willingness as a matter of national corporate investment in that capacity?

Mr. COHEN. I was going to start heading there when we broke. Maybe I should recap and continue my monologue. I was going to try to put this into a framework.

First, I don't think we underinvest in education, I think we badly invest in education. It's a very different thing. We may need more money, but not just more of the same. It's very similar to the way you do it in a lot of other industries. We are holding on to an old model. We no longer believe in it much, but we're not willing to let go, and nobody is coming forth with a new model.

Let's go back into this economic transformation that is going on in the world—at least that is what we're trying to argue—and I think it will actually fit.

There is a transition going on in the hierarchy of wealth and power and what is pushing it is two big forces. One is a change in international competition. The extent of our involvement in international competition, which is absolutely new, and we are playing with different players who play by different rules, the whole story of the Japanese market. And we conceive of it in a very Econ 101 textbook terms, which is a disaster because those terms are nondynamic. The importance of market closure early on, you can't estimate it by how many sales are gained and lost, which is an exercise we engage in all the time. If you follow, say the automobile industry in 1962, Detroit produced more cars in a week than Japan produced in a year.

Now, there may be some national gift in Japanese auto assembly or "they eat fish or their Samurai management"—we've heard all these explanations—"they have better education. Workers on the floor can do statistical quality control."

I have been working closely with a Japanese firm that set something up here. They were appalled. They needed people to do statistical quality control, and they couldn't get high school graduate workers to do it. And they couldn't even get college guys to do it. They had to hire "engineers" to do it. They were doing what shop floor people in Japan do. They had to learn the basic intellectual skills. That is why I don't like this word skills. They learned new skills: How to see numbers, how to understand what these numbers have to do with the world, and how to take that understanding in terms of moving the machine around—a whole new ball game.

We want to get better at automation. We like to believe in this country that automation eliminates the need for brains except 43 people who live in Berkeley, Bell Labs, or rent garages from Stephen Jobs by the hour, perhaps; the rest of us can just push a button here and there and get rich in the process.

It's the other way. It's just a complete misreading of the story. The first change is the change in competition. The other one is the change of technology: The advent for mass application of microelectronics-based technologies in the making of pens, pants, cigars, automobiles, insurance policies, anything you can think of. One drives the other. The adaptation of the technology is driven by competition, and how you use the technology determines where you should come out in the competition.

We have been watching how different nations use very similar technology. We would like as a nation to cling as much as possible to the form of industrial organization on which we rode to dominance—mass production—that created a standard of living that was the envy of the world, that all these other nations set out to copy.

Let's be clear, the Japanese, the Europeans, all of them started out to have an American system, but national constraints make it impossible, and they ended up developing something different.

They didn't say, "We're going to develop this system." They were aiming at us, but it came out different. And we watched, for instance, the installation of flexible-machine standards in American factories and followed pretty much the same machine.

Actually, there is a nice study by Jay Jaikpur at the Harvard Business School on flexible machines. He studied the rise of giant, multiple robots, numerically controlled, FMS systems, the big things, superautomation systems. He looked at about 25 of them in American companies and 25 in Japanese companies. The difference was the American machines produced more units. The Japanese produced something like 22 times greater variety of units. Flexible-machine units should not be used as a substitute for the old mass-production system. We are using them in ways that deny their technological value. Management did not gear up to be flexible in the products it makes, in the ability to innovate new products. Instead, we have clung to mass production. We used to have Charlie Chaplin turning nuts and bolts, and then we have a robot, and we throw it in there to replace poor Charlie, who was just imitating the robot anyway.

But if you look at the Seiko watch plant, it's terrifying. Every day, they produce three new models. There are 70 guys walking around the floor, and what they do is they design production. The machines are doing the production, but the guys on the floor have to organize the robots to change everything. So you need 70 or 80 guys all the time in there.

We looked at telephone switches. There used to be 700 or 800 workers in a big factory producing giant central switches, the ones that filled buildings in the city, with no windows. Now there are only a few guys making them, but it costs $1.5 billion to design your product. All that $1.5 billion goes into direct labor costs, really: Programmers.

It's not called manufacturing. It's services, depending on whom you buy it from; it's your program. But it's really making the switch. What we have done is taken the labor off the assembly task and put it in the program task, different kinds of skills.

Now, the mass production system was a glory in its own way. It provided an opportunity for extremely low-skilled people to make very high wages—in management as well as labor, I might add. Sometimes I think our problem is management skills.

And it was linked to the other side, which is mass consumption. In its heyday, the Chevy and the Cadillac contained about 85 percent the same components. It was the same product, really. We cranked out zillions of them. We still introduce technology as though we were using that same production system, and we are holding to it, and we are being beaten miserably on the shop floor. I don't have time to go into the competitiveness argument, but that is where we are being beaten.

In part, we are holding to this old model, and other people are learning to be flexible. If you watch advanced technology being used in Germany—I think it's important to look at Europe because Japan is always shrouded in miracles and differentness, whereas with Europe, it's the same sort of stuff here.

The Germans had to introduce technology with skilled labor in harmony. We tend to try to replace skills with technology, to maintain our older model of industrial organization—which will be our doom. Any nation that holds to an old model of organization is always in trouble, whatever century you choose to look at.

It is a self-generating process. We say we don't have the skilled people. We organize production to eliminate, to deskill, not only to have fewer, but to necessitate——

Representative SAWYER. That means a workplace is a site to share and build skills.

Mr. COHEN. We drain the skills out. Then we don't have it. A lot of American companies are beginning to understand this doesn't work. Unless they understand that, we are not going to reform the use of human intelligence in work, an if we don't do that, the labor market is going to be sent constantly the wrong signals: it doesn't pay to get smart. Or, it's going to pay in 35 years, too far out.

I think companies are beginning to discover that the way they use technology and labor has to change, which means a total change in American management patterns, because the problem is not putting in the machine, it's learning to change your organization to use the productive potential of the new technology.

Representative SAWYER. Let me ask, Mr. Harris, is there any likelihood of seeing a comparable recognition of this sort of thing in the work force so that the very kind of opportunity to learn to share skills and advance skills, the kind of thing the admiral was talking about today and the kind of thing that Professor Cohen is describing in other worksites becomes the kind of thing for which American workers bargain?

Mr. HARRIS. Mr. Sawyer, let me tell you that this country just below the surf~~ace is~~ running more scared than I have almost ever seen it run. I have sat before congressional committees before, and they say, "Well, I don't get a lot of letters on this from constituents. That's not what they raise in terms of questions." My answer is, "You're not asking them the right questions."

What people are scared to death of is we've had a long prosperity now. About half say, "I never saw it." But still, we're told on paper, you know, 2.5 percent growth. GNP growth is healthy, good. Inflation has stayed down. This is the longest we have had in a long, long time.

People don't believe that. Let me say, Wall Street, which I know a great deal about, doesn't believe it either, despite those record-high stock prices.

What people are saying is when the time of reckoning comes—meaning when we get a downturn here, whether it's Alan Greenspan, the new Chairman of the Fed or whoever, you know, there is going to be a time of reckoning and it is probably going to be sooner rather than later.

Then people are going to begin asking fundamental questions here, and the questions are: Are we going to be able to come out of this one without some quite basic changes?

You see, you've talked about government before, the issue of should government take over business and all that. That is nonsense. You can't get more than 3 percent who believe that. In fact, when they've had nationalization abroad, they're denationalizing. That isn't the point. That's not the issue.

It isn't leave it to the free market and, you know, let things develop the way they are, or have all government. That isn't the whole focus. The focus, as I think Steve Cohen has just said very ably, is: Are we smart enough to be able to adapt, be flexible enough as a society to adapt, to be able not just to be competitive but basically, don't you agree, to solve the problems of how do you produce, how do you even invent whole new industries?

We forget that we invented the computer—the United States—not only theoretically, but all the applications. And here you have examples of the Japanese cleaning up on it.

Representative SAWYER. I don't know that anybody is even remotely suggesting that the Federal Government take over industry. The question, though, was really: Is the American work force itself, are American workers, is America in general, frightened enough to bargain, to demand, to put their jobs on the line in order to keep their jobs, in order to call for the skills that will make improvements?

Mr. HARRIS. Provided they get this delicate balance that the admiral so well put, it's got to be not simply government, it's got to be not simply the people, and not simply the private sector. It's got to be all three, and the leadership within them, working its new agenda that we've got to come to. We've got to strip out of our heads the old, inured ways.

Look, I was saying—and I think it's right—that it takes people 20 years to claw their way to the top into leadership, and when they do, sadly, they are 20 years out of date. I think there is truth in that, I really do.

We have to find a way to get the people who got there through 20 years of hard work to suddenly say to themselves, you know, what got me here may not be what the name of the game is anymore.

Representative **Scheuer**. It's not enough to keep you there.

Mr. **Harris**. Seriously, this is the toughest thing in the world, but it's got to be the people, yes, the private sector, yes, and government, and it isn't just sitting down and compromising, you know, what the interests are of each. That is the traditional thing. It has got to be everybody saying, "Hey, look, we better tear up all the old ground rules and we'd better get cracking." Why? I will tell you what lies underneath it. It's the will to survive.

Thornton Wilder was right, we survive by the skin of our teeth. And we are survivors. That is the one great mark of the human race. So that humankind, being mobilized to say we've got to survive here, here are some of the answers. I have every confidence that we will respond.

But for the life of me, I don't find the leadership—both political, industrial, even voluntary organizations. Everybody is sort of protecting their own turf and not thinking in terms which are—I use the term again—quite radical, quite different, very, very different really. It is a hard thing to get through.

I think it can be done, and people will respond, because what you are doing is challenging their survival, you see, as a country.

Representative **Scheuer**. Admiral, does the experience of the military in raising skills and teaching its personnel to function in the military which is a high-technology industry have lessons for industry and for our education system?

Admiral **Watkins**. I think without any question. I worked with a number of groups that desperately want to get into the military system of education and training. After all, today the most sophisticated weapons systems in the world is one of our modern aircraft carriers. The average age of our young sailors on there is 20 years old. It is incredible to see what those kids can do when you pull them into a motivational, disciplined environment. And you take them from nothing. Some of these kids are non-high-school graduates, working on sophisticated consoles, demonstrating far more knowledge than you or I could about their work, doing things they have never done in their lives before—in very narrow fields, admittedly.

But this is motivational to them. This means that they have in their back pocket an insurance ticket, if they leave the Navy or the military service, to be productive citizens. They don't go jobless. They didn't even go jobless in the last decade when we had high unemployment rates, because they have that stick-to-itiveness and the skills demanded by American industry today.

In fact, the chairman of the board of the Ford Motor Co. told me at a prayer breakfast not too many years ago, "I will hire a Navy machinist petty officer first class on the list of people coming in for employment before anybody else because I know his track record. I can count on him. They're here early. They stay late. They don't bug me. They do their job. They inspire others. And their self-esteem, their self-satisfaction on their job is high."

These are the kinds of things that can be learned.

For example, we have disadvantaged kids trained to some of the most sophisticated kinds of tasks aboard our ships that you can imagine, and they are so turned on.

Even some of our early nuclear trained people without high school diplomas are now actually working at the graduate level in chemistry. They can tell you what pH is, they can tell you what molarity is. These are sophisticated concepts. They too are turned on. That is what we have to do to the Nation as a whole.

One way to do this is through establishment of public/private partnerships with as many of the large organizations, like business and the Navy, as we can find. These partnerships can pull together to become surrogate parents around these kids, when necessary, to get their motivation up by saying, "We have a place for you in the sun. These are the kinds of things you are good at. You're good at language, we need you learning how to speak Spanish in the southwest region desperately to help Hispanic youngsters speak English."

That could be inspiring, particularly in the inner-city schools in New York. What wonderful work they have already done up there in your great city of New York in inspiring youngsters to help other youngsters—very motivational technique.

But, I think it also needs a great deal of push. We all need to learn be be better citizens, and dollars spent on programs that teach all youngsters—affluent to disadvantaged—to aspire to serve others can be the motivational glue that binds our young people together in spirit.

Representative SCHEUER. To what extent is our long-term military strategy threatened if the military can't recruit this pool of teenagers?

Admiral WATKINS. We saw that threat in the last decade, Mr. Chairman, when we were down so low on our readiness knees by 1979. We were not a worthy fighting force for this nation by that time. So it is extremely important. The linkage is so direct that you can plot it on a graph, and it is absolutely linear in its relationship to readiness.

It is the same thing for the Nation. Aren't we talking about the readiness of the Nation to carry out its national and international commitments? So there is no difference. We need to get peer pressure on the side of their own organizations, including their own classrooms. That can be done, but you have to use proven techniques. They are there. We in the military have proven their worth.

There are so many people working on intervention strategies. I am on the Carnegie Council on Adolescent Development, and some of the motivational techniques being applied by great leaders out there today is impressive.

But what we have to do is build a bridge between effective leadership in a handful of cases and mediocre leadership in too many others so as to make the institutionalized less process sensitive to individual charisma. The kind of radical change, then, is not just in the leadership which may be difficult to repair, but also in the process so grassroots can look all the way up to the national level and see in this committee, for example, somebody responsive to needs of whole children and whole people, not pieces of them.

You can't send out an ad saying, "Look, you got all that stuff in title I last year. What's your problem?" That is not good enough at the grassroots level. They want to know who is sensitive to the human being up at this level and to the whole person. That perception is what we need to change in the system.

So when we talk about this is a grassroots problem—which we brush off lightly in too many areas right now—we do a lot of damage because we don't have alternatives in mind to pick up the pieces that are shattered when you casually dismiss it in that way.

I know what the budget process means. You are working at the margin. Good ideas disappear when you take $4 billion out of the education budget. If you have an alternative, fine. If you have a transitional mode, okay. But there isn't any entity right now for the grassroots people to look up and say, "My God, who is helping us at the State and at the executive and legislative branch levels," because of the process. It isn't good enough. It was good enough 25 years ago, but it is not good enough to meet this dynamic that we are talking about right now.

Representative SCHEUER. Well, this has been a marvelous hearing. We have overrun our allotted time, and that is a tribute to the quality of the testimony and the quality of the witnesses. There has been a wonderful synergy about the three of you. Your testimony seemed in some way to interface to the extent that one would think you had preplanned a coordinated and integrated approach to this problem. This is truly a hearing where the whole was greater than the sum of the parts.

I want to thank you for your very thoughtful, very creative, splendid testimony.

The subcommittee is adjourned.

[Whereupon, at 12:30 p.m., the subcommittee adjourned, subject to the call of the Chair.]

# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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THURSDAY, OCTOBER 1, 1987

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representatives Scheuer and Lancaster.

Also present: Deborah Matz, professional staff member.

## OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative Scheuer. I am delighted to open the second of a series of nine hearings on the questions of the quality and competitiveness of the American work force. We are interested in enabling the typical American worker to make a contribution to our national competitiveness and to lead a life of independence and self-esteem.

We have a very distinguished panel of witnesses today to consider why high school students fail to meet the standards required by business and industry and what can be done about it.

This problem, of course, has multiple dimensions. First, in recent years only about 70 percent of the young people who enter high school receive their degrees. And I have to footnote that statement by indicating that a painfully and pitifully large percentage of those who do receive diplomas are unable to read them.

These are incredibly alarming facts; 50 to 60 million American adults have not finished high school and, therefore cannot read, write or count.

Somehow or another we must provide the incentives for young people who might not think it's with it or chic or macho to stay in school. If for some reason the school environment is not satisfactory for them to acquire an education, then it should be provided in some other environment, perhaps at the workplace, perhaps in a street academy. The location is insignificant—but it is essential to acquire an education.

And the unfortunate fact is that even for those kids who do stay in school and get their diplomas, there's no assurance that they will acquire the skills to meaningfully participate in our society and in our economy because of their inability to read functionally.

They may not be able to read a menu, to read a job description, to read a job instruction sheet, to read traffic signs and all of the other things necessary to be able to function.

We were told by Secretary of Labor Bill Brock a week or so ago in his splendid testimony that 90 percent of young American adults cannot read well enough to follow simple job instructions or to get information from a map or a bus schedule.

We also have the problem of teachers who often fail minimum competency standards. The State of Georgia has tested 20,000 teachers in their subject areas and on the first round 13 percent failed and after several retestings there was still 6 percent who were unable to pass.

But Georgia is not alone; 17 percent of prospective public schoolteachers in 22 States flunked their certification exams and 15 States don't even have any kind of minimum competency testing as part of the initial certification of teachers.

Generally speaking, recruits to teaching have been drawn from the least able of our pool of college students. In part, that may be due to the fact that some students, particularly women and minorities, now have options that they never had before, and that's to the greater glory of our society. If that's a complicating factor, so be it.

But a large part of it is that we don't offer proper incentives and proper dignity and proper status for teachers so there's less of an incentive for students to go into the teaching profession. So, at the same time, there's a push away from teaching from that phenomenon and a pull toward other alternatives from increased opportunities in the workplace and, as I say, this is especially true for women and minorities.

It's an enormous problem and we won't begin to do more than just scratch the surface in these 9 days of hearings, but we do think that we can raise some relevant questions. We can raise some flags. We can flash the early warning signal. And we think it's our function in these hearings to put some of the options on the table and perhaps when these hearings are over we will work under the leadership of Congressman Gus Hawkins to put together a package that he and his colleagues on the Education and Labor Committee will find acceptable.

I might say that Congressman Hawkins has been totally supportive of the hearings. We've kept him informed from the very beginning and have invited his participation and that of his Education and Labor Committee colleagues and staff and I'm delighted that there is a staff member from the Education and Labor Committee here. It's perfectly obvious that in any legislative initiative they will be the key players. There's no doubt about it. And this committee can certainly play a supportive role. That is why we are holding these hearings. Unfortunately, all of the committees have the same problem around here. All of them have such a full plate of legislative items and they are under constant pressure to produce according to the new timetables that Congress has recently adopted. Very few, therefore, have time to do the relaxed introspective thinking, culling testimony and bringing in experts from all over the country, that a nonlegislative committee, like the Joint Economic Committee, can do. So we are very grateful to Chairman Hawkins for his support and his cooperation and his leadership.

Under his leadership, I hope that we will produce a legislative package that will encompass many of the ideas that we will hear today.

We have a superb panel here. James B. Hunt, the former Governor of North Carolina, was responsible for bringing North Carolina's education system into the 20th century. For that, we salute you, Governor. He's a member of the National Advisory Council to the Education Commission of the States and chairs the National Board for Professional Teaching Standards and chaired the task force on Education and Economic Growth under the Education Commission of the States.

He was the first Governor of North Carolina to serve two consecutive terms and there are some political pundits around who believe that one of the reasons for this was his spectacular success in achieving education reform which properly earned him the support of a very aware and very appreciative constituency.

Second, we will hear from Alan Campbell, Scotty Campbell, who is vice president, management and public affairs, and vice chairman of the board of ARA Services. He was formerly head of the Office of Personnel Management under President Carter and was on the Carnegie Forum's task force on "A Nation Prepared."

Owen Butler, known as "Brad" to his friends, is the retired chairman of Procter & Gamble. He chaired the Subcommittee on the Educationally Disadvantaged of the Committee on Economic Development which issued the report on "Children in Need." And I might say, I'm a graduate of the Harvard Business School, Mr. Butler, and I remember studying over 40 years ago what corporate statesmanship and corporate responsibility was all about, and you exemplify the best and the most enlightened model of corporate leadership, and we salute you for your contribution.

John Cole is vice president of the American Federation of Teachers and president of the Texas Federation of Teachers. We are very happy to have you, Mr. Cole.

John Bishop, associate professor, New York State School of Industrial and Labor Relations at Cornell University, Debbie Matz' alma mater.

At this point in time I have to give credit to two people who have been responsible for conceiving and setting up this remarkable set of hearings: Marc Tucker, who is executive director of the Carnegie Forum on Education and the Economy and, of course, Deborah Matz, our very talented and dedicated staff professional.

That's it. That's our cast of characters. All right. Why don't we start with Governor Hunt and we'll go right down the table. We must be out of here, unfortunately, by 12:25.

Let me say that your prepared statements will be printed in full in the record and so I would suggest that each of you take about 10 or 12 minutes to just talk to us, liberate yourselves from the written word. You are all professionals. You're all highly talented, involved, concerned people, and you've been talking up a great head of steam most of your professional lives. So just talk to us this morning. Unburden yourselves of your concerns and give us some ideas as to what the answers may be and I'm sure we will have some questions for you. As a matter of fact, there are only two

Members of Congress here, so we're going to keep it very informal and from time to time we may interrupt with questions.

It's a pleasure for me to introduce Congressman Martin Lancaster of North Carolina and I believe, Martin, that you would like to say a word or two about your Governor.

## OPENING STATEMENT OF REPRESENTATIVE LANCASTER

Representative **Lancaster**. Mr. Chairman, that's the reason I'm here. As you know, I'm not a member of your committee but did want to come and welcome my Governor and my good friend of many years, Jim Hunt.

You have already said things that I could simply verify and certify. He really was a wonderful Governor, one that made North Carolina proud, and certainly it was my distinct pleasure and opportunity as a member of the general assembly during his years in the Governor's mansion to work very closely with him on a number of very important issues and I'm happy that you have invited him here to testify.

He can bring to you and to this committee very valuable information that I believe will further your work.

Representative **Scheuer**. Thank you very much, Congressman. Governor, we yield such time as you may need.

## STATEMENT OF HON. JAMES B. HUNT, JR., FORMER GOVERNOR OF NORTH CAROLINA

Mr. **Hunt**. Thank you, Mr. Chairman. I want to thank you for inviting me. I'm delighted that Congressman Lancaster is here and all those nice things that you said, Mr. Chairman, about things North Carolina did while I was Governor really ought to all go to Congressman Lancaster because he was the floor leader of the house that passed all of that legislation, after which of course the senate simply went along with him. But I'm delighted that he is now in the Congress and that he will personally be working with you and Chairman Hawkins in getting education and training the kind of emphasis I think it ought to have.

I want to also thank your staff and Marc Tucker and my wonderful friends at the Carnegie Forum for working with you in helping set up these hearings.

Representative **Scheuer**. Let me just interrupt you for 1 second, Governor. I'm delighted you told me what you did about my colleague. I hadn't known that. I will always view him with a different perspective from now on knowing something about his background. There is nothing in the Congressional Directory that would indicate his fine contribution to education on a State level. I was unaware of that and I'm happy that you mentioned it.

Mr. **Hunt**. Thank you, sir. Mr. Chairman, I want to talk about what we do about students that fail to meet the standard. There are others who will talk about the problems and lay all of that out. You have heard a great deal of that. You will hear a lot more in the 9 days. I want to go directly to what we do about it, very frankly.

I was delighted that you began by talking about our teaching force in America, Mr. Chairman, and you gave us some statistics and very clearly you're focusing right in on some of the things that I want to talk about this morning.

But I'd like to begin by saying this, and it's important to say first things first. That is, we have many excellent teachers throughout this country. We ought to celebrate those teachers. We've all had some of them. We ought to support them in every way that we can. That's one of the things we need to rally America to do is to have more good teachers and give them the kind of support that they ought to have.

Mr. Chairman, as the purpose of these hearings indicates, educating students in America's schools who can truly think for a living, a term that Marc Tucker coined, and make us not only competitive in the world but the leading economy in the world again, in my view, will require a teaching force that is superior to what we have today or have ever had in the past.

These teachers must teach successfully not just the old "four R's" with a lot of rote learning. People talk about the good old days and how good it was and if we could just get back to that. Mr. Chairman, we dare not go back to that. We've got to go forward and have schools that are much better than that.

These teachers have got to teach higher order cognitive skills so that all of our youngsters—not just a few who are going to be our top managers and our top high tech workers, but all of them, the whole American work force—will be more creative and more productive. And they must do this at a time when more of the students that they teach than ever before come from poor, broken homes and are influenced by peer pressure not to succeed and to excel academically.

These teachers, Mr. Chairman, must be very bright and have exceptional skills. They really must bring to the classroom four things.

First, a solid foundation in the liberal arts and sciences. Every teacher must have that.

Second, a deep understanding of the subject matter they are going to teach.

Third, a solid grasp of what we call teaching pedagogy, meaning of course knowing how to teach, and that includes knowing how to teach generally, but also subject matter pedagogy; that is, knowing how to teach the particular subjects because all of them pose different problems. You need to know how to teach that particular subject, what order to teach it in, what particular problems kids are apt to have with it.

Then fourth, of course, a rich clinical experience with the help of an experienced mentor or coach. We call that practice teaching. I did it as an undergraduate. We ought to be talking about internships and residencies for teachers who have got to be this good.

Now in our country today we do not adequately assure that our teachers have that knowledge and that skill in any State. States which by law license teachers—and, of course, that is a State function and ought to be—those States do not assure their knowledge and skills against truly and rigorous and fair standards. Most of the States—you mentioned that 15 of them don't have any kind of test at all—most of them that do have some kind, use only minimum standards and have what really amounts to sort of a reading comprehension test.

The true measure of how well a candidate knows how to teach is almost never in any of the States in this Union.

Mr. Chairman, this situation exists at a time—again, you made some note of this—at a time in our country when large numbers of teacher retirements loom and when women and minorities who are historically the source of many of the best teachers—my mother being one of them—have unprecedented opportunities in other fields, and thank goodness they do.

The report, "A Nation Prepared," projected that between 1986 and 1992 1.3 million new teachers will be hired in this country. That's out of 2.5 million overall. Over half of out teachers are going to be replaced or there will be new ones in those slots in that period of time.

If we're not careful, Mr. Chairman, pressure just to fill the vacancies—and some of the greatest pressure is right around this Washington area—that pressure will result in even less qualified teachers than we have today. So we are really facing a major possible crisis but opportunity to do marvelous things if we do the right things.

Now to help remedy this situation that Carnegie Forum on Education and the Economy established—now note the Forum on Education and the Economy concerned with America's economy—saw as its first priority, the first thing it ought to turn its attention to, establishing a task force on teaching as a profession.

That task force report entitled "A Nation Prepared: Teachers for the 21st Century" recommended a series of things that we need to do in America to see, first of all, that teachers are better prepared to teach, that they work in school environments that are professional and challenging, that they are given opportunities of leadership in those schools, that they are paid well with incentives related to schoolwide performance, and that we mobilize our Nation's resources to prepare minority youngsters for teaching careers.

All of those are things that are necessary in order to have that kind of teaching force. The first recommendation of the report, establishment of a National Board for Professional Teaching Standards, was done, carried through on May 6, 1987. That's when the board was incorporated as a nonprofit, nongovernmental entity, with a majority of teachers on the board who are drawn from the very best teachers across this Nation. I wish you and Congressman Lancaster could meet those marvelous teachers that serve with Marc and David Mandell who's here and me and Scotty Campbell and others.

But a full one-third of the membership of that board comes from the ranks of Governors, State legislators, business leaders, and other public and educational leaders.

The purpose of the board, Mr. Chairman, is to establish high standards for what teachers need to know and be able to do and then to certify teachers that meet those standards.

This board certification can and I believe will come to mean as much to the public regarding our teachers in the years to come as it does today in the case of doctors and other professionals.

Now while certification by the board will be wholly voluntary, nobody is going to have to do it, it will not be required to get a license. States will decide how they want to license. We believe that a large portion of America's 2.5 million teachers will want to become board certified teachers, have that shingle, if you please, hanging out, so that everybody—those parents, those students, the business leaders in the community and all of them know that they are that good.

This certification development will give I believe powerful impetus to the following things which I think will radically change our schools and upgrade the quality of our work force throughout. Mr. Chairman, those of us in politics use the term radical carefully. I want to suggest to you and the members of this committee and to all the staff and to everybody else, that's what we've got to have—a radical upgrading and improvement in American schools.

But this business of certification is a way to get at a lot of things that we have got to do. First of all, the undergraduate arts and sciences and the teacher education programs in our colleges and universities will have to be strengthened because they have got to be preparing teachers who can become certified. So they are going to have the incentive to upgrade the quality of their programs.

Second, school restructuring, making schools that are places in which teachers have the incentive to give leadership and to do their best and to be true professionals will be necessary in order to attract these certified teachers. You won't be able to get the best teachers to come into a school that isn't a good place and a challenging and a stimulating, fulfilling place in which to teach. And I think school boards and administrators will be able to have confidence that certified teachers can give the leadership in those schools and do the kinds of high quality teaching that they want to have.

Then, Mr. Chairman, the public will be assured. There will be an assurance here that these certified teachers are highly skilled and thus I am confident be willing to pay them what they are worth and provide for them the kind of workplaces that professionals deserve to have.

And finally, Mr. Chairman, if we do these things, I am absolutely convinced that many more of America's best and brightest students, so many of whom today are not deciding to go into teaching—I ask kids in groups I go into to raise their hands if they intend to become a teacher and it's pitifully few nowadays, as you know—but I believe with this new kind of situation, with board certification and all that will flow from it, many more of our very best and brightest will be attracted into and remain in the teaching profession, one that has high standards and attractive pay and a stimulating work environment.

Mr. Chairman, while the national board is now incorporated and beginning to work, this board which I serve on and Scotty Campbell serves on and others, faces a huge task. We've got to develop the instruments for certification to do things in assessing teachers that have never been done before and it's going to be tough, it's going to be time consuming, and it's going to be expensive to do it the first time.

The typical multiple choice or true-false test will not suffice. We've got to go way beyond that as we truly assess these candidates for teachers. We've got to determine whether or not candidates have the capacity to reach, motivate, and support the learning of all the students from many different backgounds in this country.

Our plan is to assess candidates in three steps. First of all, on subject matter, both in general areas and in special subjects that the teachers will teach. That, of course, is absolutely essential. That's what some States do to a minimum level today. We intend to do it to a high level.

Second, to assess them on their mastery of good teaching practices in general and the techniques required to teach specific subjects.

Third, on observation of their actual teaching over a substantial period of time.

Mr. Chairman and members of the committee, we are plowing completely new ground. We hope to telescope into a few short years of development the kind of certification assessments that the medical profession has taken over 60 years to do. So you can see the magnitude of the task.

The Federal Government has no business certifying teachers, but one very limited area of Federal involvement is necessary because the problem of an inadequate work force as you have pointed out is national and the stakes for our Nation are so high.

The national board will need to invest $40 to $50 million in a one-shot, one-time research and development activity to design and validate the instruments for certification.

The Federal Government, Mr. Chairman and Congressman Lancaster, will need to provide part of these funds to be matched by private corporations, foundations, perhaps State and local governments. It's not appropriate for the Federal Government to suggest the standards which the board will set or even endorse. But in keeping with established tradition regarding an appropriate Federal role in eductional R&D, it is appropriate for research to be supported that will enable the board to make sound decisions on what the standards ought to be.

Once the assessments are developed and we begin to certify, then it will be a self-financed thing by application fees.

Mr. Chairman, thoughout the 9 days of hearings that you have commendably scheduled on this subject, you will hear many observations about our plight and suggestions about what we ought to do. I want to urge you to please keep in the forefront of your mind throughout that the quality of our work force depends primarily on who teaches them in America's classrooms. I ask for your help and that of the full Joint Economic Committee to see that we develop a certification process to assure the American people and American industry that we have the best teachers in the world in this country. Thank you.

[The prepared statement of Mr. Hunt follows:]

# PREPARED STATEMENT OF HON. JAMES B. HUNT, JR.

GOVERNOR OF NORTH CAROLINA, 1977 - 1985

CHAIRMAN OF THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS

TO

THE SUBCOMMITTEE ON EDUCATION AND HEALTH

OF THE CONGRESSIONAL JOINT ECONOMIC COMMITTEE.

MR. CHAIRMAN, AND MEMBERS OF THE SUBCOMMITTEE, I WISH TO ADDRESS THE SUBJECT OF THIS HEARING: "WHAT TO DO ABOUT HIGH SCHOOL STUDENTS WHO FAIL TO MEET THE STANDARD."

LET ME SAY FIRST THAT WE HAVE MANY EXCELLENT TEACHERS THROUGHOUT OUR COUNTRY. BUT, EDUCATING STUDENTS IN AMERICA'S SCHOOLS WHO CAN TRULY "THINK FOR A LIVING" AND MAKE US NOT ONLY COMPETITIVE, BUT THE LEADING ECONOMY IN THE WORLD AGAIN, WILL REQUIRE A TEACHING FORCE THAT IS SUPERIOR TO THAT WHICH WE HAVE TODAY. THESE TEACHERS MUST TEACH SUCCESSFULLY NOT JUST THE OLD "FOUR R'S" WITH A LOT OF EMPHASIS ON ROTE LEARNING. THEY MUST TEACH HIGHER ORDER COGNITIVE SKILLS SO THAT ALL OF OUR YOUNGSTERS - NOT JUST A FEW TRAINED TO BE MANAGERS AND TECHNICAL WORKERS - WILL BE MORE CREATIVE AND PRODUCTIVE. AND THEY MUST DO THIS AT A TIME WHEN MORE OF THE STUDENTS THEY TEACH THAN EVER BEFORE COME FROM POOR, BROKEN HOMES AND ARE INFLUENCED BY PEER PRESSURE NOT TO EXCEL ACADEMICALLY.

THESE TEACHERS MUST BE VERY BRIGHT AND HAVE EXCEPTIONAL SKILLS. THEY MUST BRING TO THE CLASSROOM FOUR THINGS:

(1) A SOLID FOUNDATION IN THE LIBERAL ARTS AND SCIENCES;

(2) A DEEP UNDERSTANDING OF THE SUBJECT MATTER THEY WILL TEACH;

(3) A SOLID GRASP OF TEACHING PEDAGOGY (HOW TO TEACH) AND SUBJECT MATTER PEDAGOGY (HOW TO HELP KIDS LEARN THIS SUBJECT); AND

(4) A RICH CLINICAL EXPERIENCE WITH THE HELP OF AN EXPERIENCED MENTOR/COACH.

IN OUR COUNTRY TODAY, WE DO NOT ADEQUATELY ASSURE THAT OUR TEACHERS HAVE THAT KNOWLEDGE AND SKILL IN ANY STATE. STATES WHICH BY LAW LICENSE TEACHERS DO NOT ASSURE THEIR KNOWLEDGE AND SKILLS AGAINST TRULY HIGH, RIGOROUS AND FAIR STANDARDS. MOST OF THEM THAT USE A "TEST" OF SOME KIND HAVE ONLY MINIMUM STANDARDS AND THESE OFTEN AMOUNT TO LITTLE MORE THAN A READING COMPREHENSION TEST. TRUE MEASUREMENT OF HOW WELL A CANDIDATE "KNOWS HOW TO TEACH" IS ALMOST NEVER MADE.

THIS SITUATION EXISTS AT A TIME IN OUR COUNTRY WHEN LARGE NUMBERS OF TEACHER RETIREMENTS LOOM AND WHEN WOMEN AND MINORITIES, HISTORICALLY THE SOURCE OF MANY OF OUR BEST TEACHERS, HAVE UNPRECEDENTED OPPORTUNITIES IN OTHER FIELDS. "A NATION PREPARED" PROJECTED THAT BETWEEN 1986 AND 1992, 1.3 MILLION NEW TEACHERS WILL BE HIRED - MORE THAN ONE-HALF OF THE NATIONS TEACHING FORCE. IF WE ARE NOT CAREFUL, PRESSURES TO FILL VACANCIES WILL RESULT IN LESS QUALIFIED TEACHERS THAN WE HAVE TODAY.

TO HELP REMEDY THIS SITUATION, THE CARNEGIE FORUM ON EDUCATION AND THE ECONOMY ESTABLISHED THE TASK FORCE ON TEACHING AS A PROFESSION. THE TASK FORCE REPORT, "A NATION PREPARED: TEACHERS FOR THE 21ST CENTURY," RECOMMENDED A SERIES OF THINGS THAT WE NEED TO DO IN AMERICA TO SEE THAT TEACHERS ARE BETTER PREPARED TO TEACH, WORK IN SCHOOL ENVIRONMENTS THAT ARE PROFESSIONAL AND CHALLENGING, GIVEN OPPORTUNITIES

OF LEADERSHIP, PAID WELL WITH INCENTIVES RELATED TO SCHOOLWIDE PERFORMANCE AND THAT WE MOBILIZE OUR NATION'S RESOURCES TO PREPARE MINORITY YOUNGSTERS FOR TEACHING CAREERS.

THE FIRST RECOMMENDATION OF THE REPORT, ESTABLISHMENT OF THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS, WAS DONE ON MAY 6, 1987. THE BOARD IS A NON-PROFIT, NON-GOVERNMENTAL ENTITY WITH A MAJORITY OF TEACHERS DRAWN FROM THE BEST IN OUR NATION BUT WITH A FULL ONE-THIRD MEMBERSHIP FROM THE RANKS OF GOVERNORS, STATE LEGISLATORS, BUSINESS LEADERS AND OTHER PUBLIC AND EDUCATIONAL LEADERSHIP.

THE PURPOSE OF THE BOARD IS TO ESTABLISH HIGH STANDARDS FOR WHAT TEACHERS NEED TO KNOW AND BE ABLE TO DO, AND TO CERTIFY TEACHERS WHO MEET THOSE HIGH STANDARDS. WE BELIEVE THIS "BOARD CERTIFICATION" CAN AND WILL COME TO MEAN AS MUCH TO THE PUBLIC REGARDING OUR TEACHERS AS IT DOES IN THE CASE OF DOCTORS AND OTHER PROFESSIONS.

WHILE CERTIFICATION BY THE BOARD WILL BE WHOLLY VOLUNTARY (THE STATES REQUIRE LICENSING WHICH IS MANDATORY), WE BELIEVE THAT A LARGE PORTION OF AMERICA'S TWO AND ONE-HALF MILLION TEACHERS WILL ULTIMATELY SEEK IT. THIS DEVELOPMENT WILL GIVE POWERFUL IMPETUS TO THE FOLLOWING THINGS WHICH WILL RADICALLY CHANGE OUR SCHOOLS AND UPGRADE THE QUALITY OF OUR WORKFORCE THROUGHOUT:

(1) UNDERGRADUATE ARTS AND SCIENCES AND TEACHER EDUCATION PROGRAMS IN OUR COLLEGES WILL HAVE TO BE STRENGTHENED TO PREPARE TEACHERS TO MEET THE HIGH STANDARDS REQUIRED FOR CERTIFICATION.

(2) SCHOOL RESTRUCTURING WILL BE NECESSARY IN ORDER TO ATTRACT THESE "CERTIFIED" TEACHERS INTO A CHALLENGING, PROFESSIONAL ENVIRONMENT; AND SCHOOL BOARDS AND ADMINISTRATORS WILL BE ABLE TO HAVE CONFIDENCE THAT CERTIFIED TEACHERS CAN BE "LEAD TEACHERS" AND GIVE HIGH QUALITY INSTRUCTIONAL LEADERSHIP IN THEIR SCHOOLS.

(3) THE PUBLIC WILL BE "ASSURED" THAT THESE CERTIFIED TEACHERS ARE HIGHLY SKILLED AND THUS WILL BE WILLING TO PAY THEM WHAT THEY ARE WORTH AND PROVIDE FOR THEM THE KIND OF WORKPLACES THAT PROFESSIONALS DESERVE.

(4) MANY MORE OF AMERICAN'S BEST AND BRIGHTEST STUDENTS WILL BE ATTRACTED INTO AND REMAIN IN A TEACHING PROFESSION WITH SUCH HIGH STANDARDS, ATTRACTIVE PAY AND STIMULATING WORK ENVIRONMENTS.

WHILE THE NATIONAL BOARD IS NOW INCORPORATED AND BEGINNING TO OPERATE, ITS MAJOR TASK OF DEVELOPING THE ASSESSMENTS FOR CERTIFICATION WILL BE DIFFICULT, TIME CONSUMING AND COSTLY. THE TYPICAL "MULTIPLE CHOICE" OR TRUE-FALSE" TESTS WILL NOT SUFFICE. WE MUST DETERMINE WHETHER CANDIDATES HAVE THE CAPACITY TO REACH, MOTIVATE AND SUPPORT THE LEARNING OF ALL STUDENTS FROM MANY DIFFERENT BACKGROUNDS.

WE EXPECT TO ASSESS CANDIDATES IN THREE STEPS:

(1) ON SUBJECT MATTER - BOTH IN GENERAL AREAS AND IN SPECIAL SUBJECTS THE TEACHERS WILL TEACH.

(2) ON THEIR MASTERY OF GOOD TEACHING PRACTICES IN GENERAL AND IN THE TECHNIQUES REQUIRED TO TEACH SPECIFIC SUBJECTS, AND

(3) ON OBSERVATION OF THEIR ACTUAL TEACHING OVER A SUBSTANTIAL PERIOD OF TIME.

WE ARE PLOWING COMPLETELY "NEW GROUND" AND HOPE TO TELESCOPE INTO A FEW SHORT YEARS DEVELOPMENT OF THE KIND OF CERTIFICATION ASSESSMENTS THAT THE MEDICAL PROFESSION HAS DONE OVER 60 YEARS.

THE FEDERAL GOVERNMENT HAS NO BUSINESS CERTIFYING TEACHERS. BUT ONE VERY LIMITED AREA OF FEDERAL INVOLVEMENT IS NECESSARY BECAUSE THE PROBLEM OF AN INADEQUATE WORKFORCE IS NATIONAL AND THE STAKES FOR OUR NATION ARE SO HIGH.

THE NATIONAL BOARD WILL NEED TO INVEST 40-50 MILLION DOLLARS IN A ONE-SHOT, ONE-TIME RESEARCH AND DEVELOPMENT ACTIVITY TO DESIGN AND VALIDATE THE ASSESSMENTS FOR CERTIFICATION. THE FEDERAL GOVERNMENT WILL NEED TO PROVIDE PART OF THESE FUNDS, TO BE MATCHED BY PRIVATE CORPORATIONS, FOUNDATIONS, AND STATE AND LOCAL GOVERNMENT.

IT IS NOT APPROPRIATE FOR THE FEDERAL GOVERNMENT TO SUGGEST THE STANDARDS WHICH THE BOARD WILL SET, OR TO EVEN ENDORSE THE BOARD'S STANDARDS. BUT IN KEEPING WITH ESTABLISHED TRADITION REGARDING AN APPROPRIATE FEDERAL GOVERNMENT ROLE IN EDUCATIONAL R AND D, IT IS APPROPRIATE FOR RESEARCH TO BE SUPPORTED THAT WILL ENABLE THE BOARD TO MAKE SOUND DECISIONS ON WHAT THE STANDARDS OUGHT TO BE.

ONCE THE ASSESSMENTS ARE DEVELOPED AND CERTIFICATION BEGINS, THE BOARD WILL BE SELF-FINANCED BY APPLICATION FEES, JUST AS ARE CERTIFICATION ACTIVITIES IN OTHER PROFESSIONS.

MR. CHAIRMAN, THROUGHOUT THE EIGHT DAYS OF HEARINGS YOU HAVE COMMENDABLY SCHEDULED ON THIS SUBJECT THAT WILL LITERALLY DETERMINE OUR ECONOMIC FUTURE, YOU WILL HEAR MANY OBSERVATIONS ON OUR PLIGHT AND SUGGESTIONS ABOUT WHAT WE SHOULD DO. I URGE ON YOU THE NOTION THAT THE QUALITY OF OUR WORKFORCE DEPENDS PRIMARILY ON WHO TEACHES THEM IN OUR NATION'S CLASSROOMS. I ASK FOR YOUR HELP AND THAT OF THE FULL JOINT ECONOMIC COMMITTEE TO SEE THAT WE DEVELOP A CERTIFICATION PROCESS TO ASSURE THE AMERICAN PEOPLE AND AMERICAN INDUSTRY THAT THOSE TEACHERS ARE THE BEST IN THE WORLD.

Representative SCHEUER. Governor, thank you very, very much for splendid testimony.

We are going to suspend for 10 or 12 minutes. There is a rollcall vote. We will be back in a jiffy.

[A brief recess was taken.]

Representative SCHEUER. The committee will resume.

Scotty Campbell, please take roughly 10 or 12 minutes and then I'm sure when all of you are finished we will have some questions for you.

## STATEMENT OF ALAN K. CAMPBELL, VICE CHAIRMAN OF THE BOARD AND EXECUTIVE VICE PRESIDENT, ARA SERVICES, INC.

Mr. CAMPBELL. Thank you, very much, Mr. Chairman. It's a pleasure to be here and particularly to be on this distinguished panel.

I have spent a good part of my life studying education. More recently, in joining the business world, I now have perhaps a greater practical interest. ARA Services has 120,000 employees, which makes us the 12th largest employer in the country and, needless to say, we have a great stake in the quality of people who come out of the public school system.

What I would like to do is simply summarize what is in my prepared statement and in doing that take into account what Mr. Hunt has already said, as well as what I would guess the other members of the panel are going to say.

In doing that, let me simply state in very brief order what I think is the emerging consensus in the education reform area and then turn to some specific projects relative to the provision of education services for at-risk students, which it seems to me is one of the most serious problems which we face.

In your opening comments, Mr. Chairman, and in what Governor Hunt said, but it deserves reemphasis—what is being suggested by the current education reform movement is not a return to the basics, but rather a new quality of education emphasizing higher order skills. The demands of the international marketplace as well as the quality of contemporary American society depends on that.

There is a danger that the reform will turn to an insistence that we go back to basics with all the mandates and the like which go with that which will lead us, in my judgment, in the wrong direction.

If the teaching of higher order skills is what is required, then it seems to me that there has gradually emerged from the many studies which have examined this problem a set of agreed upon propositions about what needs to be done.

The first of these—and Governor Hunt has already spoken of it—is the professionalization of the teaching profession. This will have to be accomplished at the same time as the demand for teachers will be very great. Just to give another number in relationship to that need: if the predicted shortage of teachers occurs over the next 6 years, *it* will require one-third of all college graduates in the United States to enter teaching.

Obviously, we hope that there are ways of retaining some of those who in the past would have left teaching. Perhaps, too, there will be other routes for people from other careers into teaching to help meet to some degree that demand. But it is overwhelming.

It is also a window of opportunity. It is possible by taking advantage of this that we can indeed reinvigorate the teaching profession in this country in a relatively short period of time. And if that opportunity is lost, it's going to be lost for a generation. Therefore, I feel great urgency about it.

In addition to the necessity for professionalizing the teaching profession and all that goes with that, there is also the recommendation for the restructuring of the school system as it relates to how education services are delivered.

The CED report of the Policy Subcommittee, which Brad Butler chaired, calls it a "need for a change from a top-down system to a bottom-up system." That is providing much greater autonomy at the school level so that curriculum decisions, teaching technique decisions, the organization of the school, will be made by the teachers in that school in association with their administrators.

This is revolutionary. The basic evolution of the organization structure of education in this country has been continually in the direction of increasing mandates from the State level, mandates from the school district level, attempting to create a "teacher-proof" system. That is, you so mandate the processes that you leave no room for independent decisionmaking on the part of those in the classroom.

There is no way that you can build a profession with that kind of system and there is no way that kind of system can produce the kind of student learning that is required.

Therefore, there has been, in my judgment, a move away from the first report which began much of this concern, "A Nation At Risk", which did suggest a greal deal of mandating from higher levels and some of it occurred across the country.

The new wave of reform or what some call the second wave of reform is really suggesting a very different delivery system and there is a close relationship between that and the professionalization of the teacher work force because you cannot have a profession unless you grant autonomy and give a lead role to teachers in their own schools.

The model should be the management of the professional law firm or the professional accounting firm or modern business practice with its great empahsis on decentralization and much greater autonomy at the unit level—at the level where the action takes place.

Such a system obviously requires a technique for accountability and it is at this point that a good deal of controversy has emerged. Unlike either private sector or professional firms, it is much more difficult to define a bottom line in the public sector in general and particularly in education.

There exists in the teaching profession considerable resistance to the use of a standardized testing of students in order to determine how well the school or individual teacher is performing. Since the background and preparation of the students are likely to vary substantially from student to student and from school to school, and because the danger of teaching to the test, teachers are fearful—and I think with some justice. That such a system of accountability could lead to a deterioration rather than improvement in the quality of education is a concern I think we all must have.

Accepting that danger to be real, it is still essential that if individual schools and school districts are to be granted greater autonomy, it is essential that there must be some system for measuring how well education is proceeding in that school or in that district.

What is needed is a system which goes beyond standardized testing. It needs to be a system which looks at issues like dropouts, parental involvement, as well as socialization skills. It does not seem to be impossible to develop such outcome measures, but they remain to be developed. It is in this area that a great deal of attention is needed. I believe it is quite appropriate for the Federal Government and the Federal Department of Education to be helpful in this area by providing resources to develop outcome measures.

There are schools and school districts across the country which are already attempting to do this, to adopt a restructured model, and early returns are encouraging.

The recent school contract in Rochester, NY, is but one example of a school board, school administration, and teachers working together to design a system which will lead to that kind of autonomy and that kind of emphasis.

It is well to note in passing that the Rochester contract has established the lead teacher concept very much like that recommended in the report of the Carnegie task force. Over the next 3 years it will be possible for those lead teachers to earn as much as $70,000 a year. Perhaps teachers will finally reach the point where it can overcome the situation, as mentioned by the Chairman, of a bifurcated labor force making it possible to pay less for teaching because of the restrictions on women and minorities entering other professions.

Finally, let me mention the concern about at-risk students and the degree to which the reform efforts are designed to be relevant to that problem. Brad Butler, who is chairman of the CED subcommittee which studies that portion of the student population, I'm sure will comment upon it and, therefore, let me mention simply one experiment which is currently underway that I believe holds great promise.

I am associated with an organization as a board member called Private/Public Ventures, which is concerned with the employment and education of at-risk students. We are involved in a great number of experimental projects, but let me mention one of the major ones. It is concerned with overcoming the recognized phenomenon of learning loss during the summer months, a learning loss which is much greater for at-risk students than it is for middle class students.

What has been designed is a program of remediation in academic skills plus work for a group of students in five cities—Boston, Fresno, San Diego, Seattle, and Portland, OR. It is a combined program of work and remediation with a control group which does not receive the remediating. Tests are used to determine what has been accomplished during the course of the summer.

Representative SCHEUER. Excuse me. Didn't John Dewey tell us more than half a century ago that we learn to skate in the summer and swim in the winter?

Mr. **Campbell.** John Dewey may well have said that.

Representative **Scheuer.** You don't remember it? He did say that. What he was trying to say is that when we're doing nothing, unconsciously we are assimilating what we studied, it's seeping through our system, we're sort of cogitating about it and reviewing it and figuring out how we apply it, all unconsciously while we are relaxing over the summer.

I am not an advocate of people doing nothing over the summer and I think the Japanese whose kids go to school 240 days a year as against our kids' 180 have got something there. Certainly something happens to kids over the summer when they are not working or studying. And maybe we can try to build on that process.

Mr. **Campbell.** Yes. What we do know is that there is learning loss and it's substantial—eight-tenths of a grade, for example, is not uncommon on average, with over a year loss for some at-risk students.

Representative **Scheuer.** From doing nothing over the summer?

Mr. **Campbell.** From doing nothing, or from working but not having any educational experience during that time. There is a greater loss, by the way, in reading than there is in arithmetic, which is sort of interesting relative to what kinds of activities they may be engaged in during the summer.

By providing this combination of work and remediation, the first summer for the 1,500 students involved—so it's a relatively large group—the loss was reduced by over 80 percent.

The second summer, in the case of numeric skills, arithmetic, for the treatment group, there was actually a gain. In other words, they started school in the fall ahead of where they were when they left in the spring. We are continuing to follow those students in the academic year. We have just completed the third summer, but one of the things about the experiment which I think is attractive is that it is tied to the already-existing Federal Summer Youth Employment program. The extra cost per child, taking into account classroom space and the like, is about $717 a student in contrast to the $700 which is paid for their employment, and for the two summers and the intervening school year the total cost per student is $1,600.

When you look at cost-per-pupil today, that is a bargain and it can be done with current resources. It can be done within the context of an already-existing program—the Federal Summer Youth Employment program—and has great promise.

I do have here an executive summary of just a few pages of the program and would be happy to have it included in the record.

Representative **Scheuer.** We would like that very much.

[The information referred to follows:]

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Executive Summary

# Summer Training and Education Program (STEP)

## Report on the 1986 Experience

by Cynthia L. Sipe
Jean Baldwin Grossman
Julita A. Milliner

April 1987

## ACKNOWLEDGMENTS

The report on the 1986 Summer Experience of STEP was completed through the contributions of many individuals. The authors wish to acknowledge the support provided and extend their sincere gratitude to all of the report's contributors. First, we would like to thank members of the P/PV staff: Wendy Wolf, Director of Research at P/PV, supervised the production of the report and provided invaluable insight and advice on research design and analytical issues; the data unit staff--John Wooden, Rick Etheredge, Ken Libert and Jon Bumbaugh -- provided programming and analytic assistance, while Batia Trietsch, Eleanor Hammond and Kevin Harris assisted with data management; and Mike Bailin, Gary Walker, Jerry Kolker, Frances Vilella-Velez, Mike Sack and May Pritchard reviewed and commented on early drafts of the report. Editorial support was provided by Natalie Jaffe, Judy Wilmoth White and Cary Lawson; and Paula Strawberry typed the report. Finally, we wish to acknowledge the contributions of P/PV's site coordinators and their assistants in collecting and providing relevant data.

Several individuals outside of P/PV also contributed to the report. We wish to acknowledge the contributions made by David Zimmerman and Bob Egan in collecting and analyzing the cost data for the program. Calvin Jones, Frank Furstenberg, Walter Haney, Barbara Heyns and Don Rock provided advice on general research issues. Carolyn Bumbaugh designed the figures. Gordon Berlin, Eileen Rudert and numerous others read and provided useful comments on an earlier draft of the report.

## EXECUTIVE SUMMARY

The need to identify effective ways of improving the basic skills of disadvantaged youth has become an increasingly urgent and widespread concern throughout American society.

This concern has been accentuated by the impact of major demographic changes that are taking place: while youth are becoming a smaller segment of our total population, the number of youth in poor families is growing--about one in five teenagers is now living in poverty. Since the educational achievement of poor youth is on average lower than that of more advantaged youth, the basic skills competence of the entry-level work force is on the decline.

Yet changes in public education inspired by the reform movement of the early 1980s have done little to improve the performance or retention of youth who are doing poorly in school or dropping out. Those reforms have, rather, focused on upgrading the achievement of youth already performing acceptably. A growing share of the youth population thus seems to be falling behind relative to the basic skills requirements of an increasingly complex society and economy.

But while the search for effective solutions is urgent, the nation's concern about the budget deficit has led to reduced federal expenditures on social programs and has largely restricted interventions to those that can be implemented at moderate cost. The Summer Training and Education Program (STEP) is such an intervention.

The STEP model aims to increase basic skills and lower dropout and teen pregnancy rates by providing poor and under-performing youth with remediation, life skills and work experience during two consecutive and intensive summer programs, with ongoing support and personal contact during the intervening school year. It builds on and enriches existing public services: work experience provided by the federal Summer Youth Employment and Training Program (SYETP), and education provided by public school resources. Thus, the model requires only moderate additional expenditures to implement.

STEP was designed and initiated by Public/Private Ventures in 1984. The model is being tested in a five-site national demonstration that includes a four-year operational phase and research activities that extend for an additional five years.

Initial funding for model development and pilot testing, and continuing support for the national demonstration have been provided by The Ford Foundation. Since the national demonstration began in the summer of 1985, support has expanded to include

Aetna Life and Casualty Foundation, The Ahmanson Foundation, The Edna McConnell Clark Foundation, William T. Grant Foundation, The William and Flora Hewlett Foundation, The Robert Wood Johnson Foundation, Lilly Endowment, James C. Penney Foundation, the U.S. Department of Health and Human Services, and the U.S. Department of Labor. Local program operation costs are covered primarily by Title II-B funds under the Job Training Partnership Act (JTPA) and local school district resources.

STEP's early impacts are very encouraging. In the 1986 summer program, new enrollees largely held their own in reading while their control group counterparts showed substantial losses. Likewise, treatment youth achieved gains in math while the control group lost ground. Stemming summer learning losses--which research has shown poor youth experience to a far greater degree than their more advantaged peers--is an important first step in keeping youth in school and improving their performance.

The summer program's life skills component also had encouraging results. STEP ycuth increased their knowledge of the consequences of teen parenting and how to avoid it, and were 53 percent more likely than the control group to use contraceptives if they were sexually active (nearly half the youth reported at the beginning of the summer that they were).

## THE SUMMER TRAINING AND EDUCATION PROGRAM (STEP) DEMONSTRATION

The STEP demonstration was designed to respond to the following circumstances:

- Low-income youth are dropping out of high school at alarming rates -- 50 percent and higher in many urban areas.
- The relationship between dropping out of school and long-term difficulty in the labor market is well documented, as is the inter-relationship of basic skills deficiencies, teenage parenting and dropping out.
- The early teen years are particularly critical for dropout-prone youth; their school experience at that time strongly influences later decisions to drop out or to graduate.
- Economically disadvantaged youth lose more ground academically during the summer months than do their more advantaged peers.

- The highest priority for most poor youth during the summer is securing income; thus, since jobs are scarce for 14 and 15 year-olds, a summer program with a paycheck is highly attractive.

Recognizing the relationship of these factors--and the need for interventions that are both operationally and economically feasible--the STEP model comprises a two-summer program during which participants earn minimum wage for a full day, five days a week for six-eight weeks, and engage in three core activities:

1. Remediation: 90 hours of group and individually paced instruction in basic reading and math skills.

   About 20 percent of this time is spent on computer-assisted instruction, and 20 minutes a day are spent on silent sustained reading. The curriculum, called Practical Academics, was developed by P/PV and includes nine modules that teach basic skills in contexts relevant to these students--developing job skills, life skills and the ability to profit from regular school classes. The modules can be adjusted to meet local needs.

2. Life Skills and Opportunities (LSO): 18 hours of instruction on responsible social and sexual attitudes and behavior.

   Emphasis is on personal decision-making; job equality issues; the consequences of sexual activity, teen pregnancy and substance abuse; ways to avoid pregnancy, including abstinence; and sources of family planning services. The curriculum, developed by P/PV with outside consultants, uses lectures, discussions, films, role-playing, field trips and outside speakers to stress the need to set goals, plan for the future and take responsibility for a decision about whether or not to initiate sexual activity. About half the youth report on pre-program questionnaires that they are sexually active but not knowledgeable about contraception.

3. Work experience: at least 80 hours of part-time work provided by the federally funded Summer Youth Employment and Training Program (SYETP).

   Combining SYETP jobs with remediation and life skills instruction and paying the minimum wage for all a participant's hours provide financial incentives to youth who ordinarily might not become involved in academic remediation and pregnancy prevention programs. It also demonstrates a way to institutionalize an enriched summer youth jobs program.

During the intervening school year, STEP offers activities designed to encourage youth to remain in school. Youth participate in group activities and meet regularly with mentors/counselors who refer them to needed services, monitor their school attendance and encourage them to maintain the progress made in the first summer and return for the second.

To be eligible for participation, youth must be 14 or 15 years old, from low-income families and performing below grade level in reading or math as indicated by recent standardized test scores and/or a recent history of grade retention. Such youth are at high risk of dropping out of school.

The demonstration includes a research component that involves random assignment of youth to treatment and control groups. Control group youth work full time on SYETP jobs. Both groups are tested at the beginning and end of the summer, using the Metropolitan Achievement Test (MAT). Data collected from the school districts in each site include attendance, standardized test scores, credits earned, grade progression and dropout status. Pre- and post-program questionnaires assess attitudes, knowledge and behavior with respect to sexual and social issues and career awareness. After the operational period, follow-up research will continue through the scheduled graduation date of all youth; data will be collected from the schools and from the youth themselves through face-to-face and telephone interviews.

For each cohort, approximately 300 youth are recruited in each site; by random assignment, half are selected for treatment and half for a control group. In the second summer, treatment youth are encouraged to return to continue the enriched summer program; control group youth are not guaranteed summer jobs in most sites. (In the summer of 1986, only one site re-enrolled control youth in SYETP.)

The five demonstration cities are Boston, Fresno, Portland (Oregon), San Diego and Seattle. At the sites, day-to-day management and operation of the program are the responsibilities of employment and training agencies, school districts and a number of other local institutions. In all sites, public school involvement with recruitment, curriculum design and the provision of data for this summer program has been extensive, more so than in most employment and training programs. In addition, all sites grant school credit to students who participate in STEP remediation.

As initially designed, the STEP demonstration was to start in 1985, serve 1,500 youth in two overlapping waves (1985-86, Cohort I; 1986-87, Cohort II) and be followed by a long-term research phase (1987-92). Based on the success of the 1986 summer of program operations and the strength of its test and other results, however, the demonstration has been expanded to serve a third cohort of youth in 1987 and 1988, extending the follow-up phase until 1993. As a result, the total number of treatment group youth in the demonstration will be about 2,250; an equal number will compose the control group. (See Figure 1.)

## THE 1985 SUMMER

Summer program activities for Cohort I began in 1985. The program was successful in reducing by half the substantial learning losses that would have occurred over the summer without the program. Treatment youth outscored their control group counterparts in both reading and math by approximately one-quarter of a grade equivalent. The program was not powerful enough, however, to cancel the summer losses for treatment group members. At the end of the summer, their test scores in both reading and math were lower than they were at the beginning of the summer, but control group losses were significantly larger than those experienced by treatment youth.

STEP also had a substantial effect on participants' knowledge of contraception. Information about birth control methods and availability significantly increased for every site, racial/ethnic group and sex.

These results were both encouraging and indicative of the areas in which the program needed to be strengthened. As a result, management and structure of the remediation component was improved and the curriculum was revised for the summer of 1986. The experience of Cohort I also indicated the need for a more intense and structured school-year component. P/PV strengthened the design, and sites introduced it at the beginning of the 1986-87 school year.

## THE 1986 SUMMER

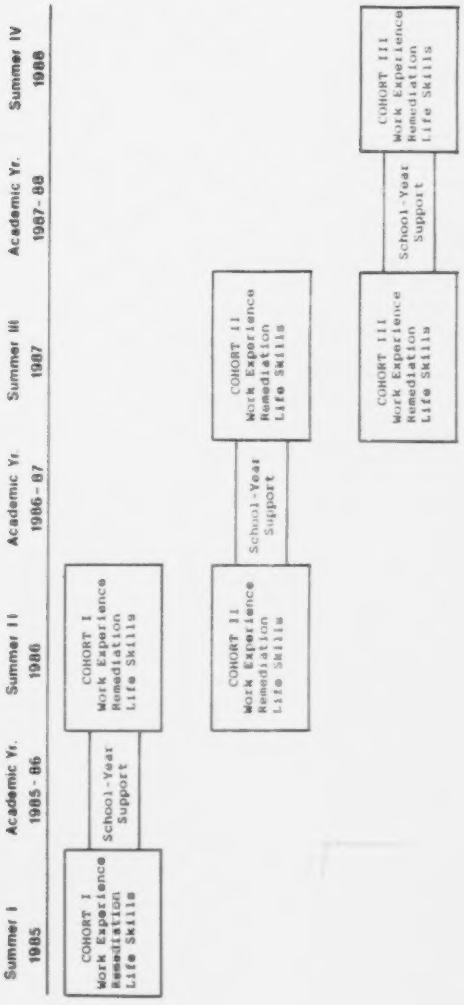
In the summer of 1986, 564 of the 752 treatment youth in Cohort I returned for their second summer of participation. A second cohort of 1,519 youth (765 treatments and 754 controls) began their first summer of program participation.

Analysis of the characteristics of the two cohorts indicates that they are similar in most respects: mostly minority, poor and from female-headed households; testing about two grades below the level appropriate for their age in reading and about one and one-half grades below in math; sexually active and largely uninformed about birth control methods. The two cohorts differ slightly in two areas: 55 percent of Cohort II is 14 years old, 45 percent is 15, while Cohort I was evenly split; and there are larger percentages of Hispanics and Asians in Cohort II.

As for the Cohort I treatment youth who returned for their second summer, they were somewhat more likely than non-returnees to be

Figure 1

## SUMMER TRAINING AND EDUCATION PROGRAM (STEP)
## OPERATIONAL PLAN


Summer I
1985
Academic Yr.
1985-86
Summer II
1986
Academic Yr.
1986-87
Summer III
1987
Academic Yr.
1987-88
Summer IV
1988
COHORT I
Work Experience
Remediation
Life Skills
School-Year
Support
COHORT I
Work Experience
Remediation
Life Skills
COHORT II
Work Experience
Remediation
Life Skills
School-Year
Support
COHORT II
Work Experience
Remediation
Life Skills
COHORT III
Work Experience
Remediation
Life Skills
School-Year
Support
COHORT III
Work Experience
Remediation
Life Skills

in the lower grades, to be from minority groups, and to have had no prior sexual or work experience.

Program participation was high among both cohorts. On average, treatment group youth were present for about 82 percent of their classroom hours and 80 percent of their work hours. As in Year One, the best predictor of participation levels was school-year attendance; youth who attended school regularly during the year continued that pattern during the summer.

## 1986 SUMMER IMPACTS

### The Second Cohort

STEP had substantively large effects on Cohort II youths' reading and math skills, knowledge of contraception and sexually-related behavior during their first summer of participation. The effects on basic skills were larger and much more widespread than those for Cohort I's first summer (1985) and thus are more likely to result in the desired longer-term outcomes.

Cohort II control group youth experienced substantial learning losses in both reading and math over the 1986 summer, as had Cohort I control youth in the summer of 1985. These losses ranged from about three-quarters of a grade to a full grade equivalent in reading, and about one-half of a grade equivalent in math.

STEP's impact on these losses during the 1986 summer was more than double the effect it had in the summer of 1985. The majority of learning loss in reading was stemmed: STEP youth scored six-tenths of a grade equivalent higher than control youth. Learning loss in math was not only eliminated; a gain was produced. At the end of the summer, treatment youth scored slightly higher in math than they had at the beginning of the summer, and eight-tenths of a grade equivalent higher than controls. Figures 2-5 on the following pages present these changes in terms of MAT scaled scores for the overall cohorts and selected subgroups.

These results were not only stronger but were also more consistent for the whole Cohort II treatment sample than they were for Cohort I's first summer. Treatment youth of both sexes, in all racial/ethnic groups and in all five demonstration sites substantially improved in math; in Cohort I's first summer only Hispanics, blacks and treatment youth in two of the five sites improved in math. In reading, both sexes, black youth and youth in four of the demonstration sites benefited; in Cohort I's first summer only females, Hispanics, Asians and treatment youth in two sites benefited.

Figure 2

MEAN MAT READING SCORES FOR COHORT II AT PRE- AND POST-TEST

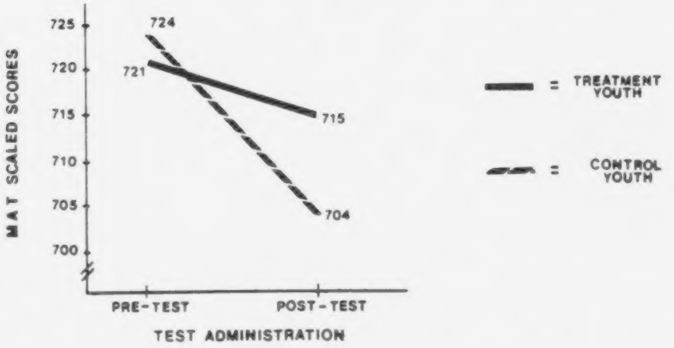


Figure 3

MEAN MAT MATH SCORES FOR COHORT II AT PRE- AND POST-TEST

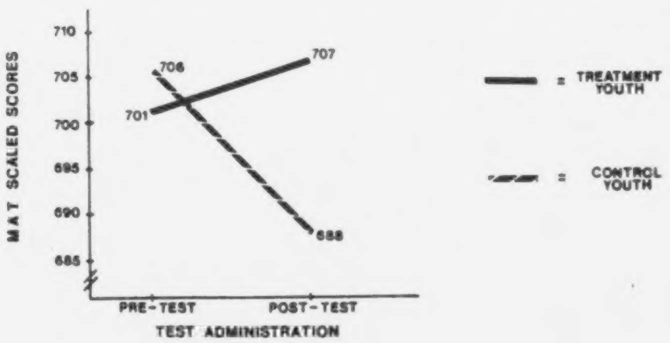


Figure 4

PRE-TEST TO POST-TEST CHANGES IN MEAN MAT READING SCORES FOR COHORT II BY SEX AND RACE/ETHNICITY

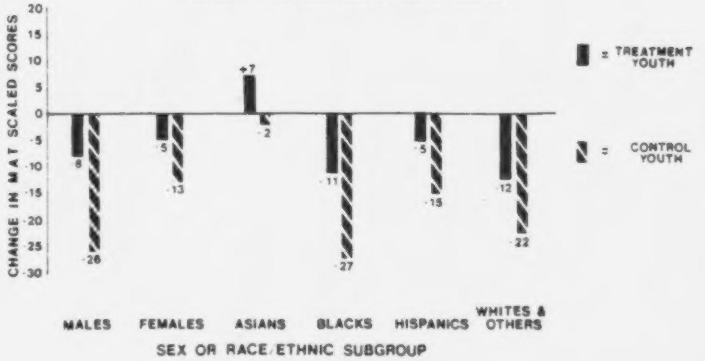
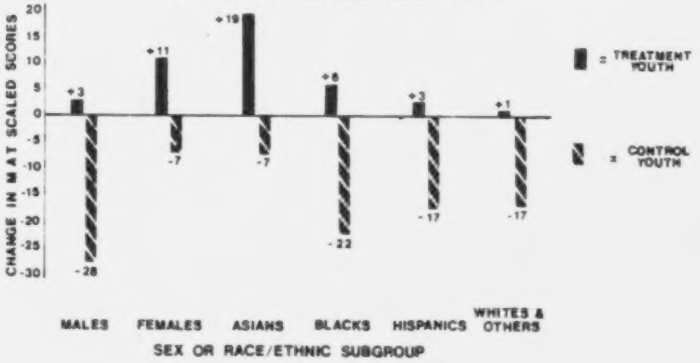


Figure 5

PRE-TEST TO POST-TEST CHANGES IN MEAN MAT MATH SCORES FOR COHORT II BY SEX AND RACE/ETHNICITY



The sharp improvement in basic skills likely reflects the improvements in design and operation of STEP remediation in 1986. P/PV developed and delivered to the sites a stronger, more prescriptive curriculum; P/PV and the sites identified and hired lead teachers to supervise curriculum development and delivery; and the sites initiated local curriculum planning and began teacher training earlier in the spring than was possible the first year. In addition, the start-up problems endemic to the first year of any demonstration had been reduced: the revised remediation curriculum was the only element untried in the sites.

STEP's effects on the second cohort's knowledge, attitudes and behavior regarding sexual activity and consequences were similarly strong. Treatment youths' knowledge at the end of the summer, as measured by questions about the kinds and availability of contraceptives, increased 50 percent. These effects were found in all demonstration sites for both sexes and all racial/ethnic groups. With the exception of whites, youth in all subgroups also increased their knowledge of the burdens of adolescent pregnancy.

STEP also had some positive effects on sexual behavior: STEP participants were 53 percent more likely than youth in the control group to use contraceptives if they were sexually active during the summer.

The First Cohort

The research also examined STEP's impact on the school-year (1985-86) and second-summer (1986) performance of Cohort I youth.

To measure school-year performance, P/PV examined attendance, standardized test scores, credits earned, grade promotion and dropout behavior (approximately 95 percent of treatment youth returned to school, after their first summer in STEP). The experience of treatment and control youth differed on only one of these measures--promotion. But the impact on promotion was large: treatment group youth were 22 percent less likely to fail than were controls: the failure rate, 24.0 percent for controls, was reduced to 18.7 percent for treatment youth. The positive effect was especially large for Hispanics.

The otherwise small effects on school performance reflect STEP's modest impact on Cohort I youth during their first summer in the program. After the 1985 summer, treatment youth had scored only a quarter of a grade equivalent higher than control youth in reading and math, and both groups had suffered significant losses. The small school-year effects may also reflect the absence of a fully operational school-year support component in every site during the year 1985-86.

The net impact of the program cannot be determined because control group performance was not measured during the second year, except in San Diego. During the summer of 1986, Cohort I treatment youth in all sites showed, again, significant losses in reading and little change in math. However, over the whole 15-month program period, these youth experienced a small, non-significant loss in reading and a substantial gain in math. Participation in the second summer continued to improve their knowledge of contraceptives and added an increased understanding of substance abuse as well.

How Cohort I STEP participants compare with similar youth not enrolled in STEP could be measured only in one site. In San Diego, Cohort I control youth were given a second summer of work experience in exchange for being tested. Measurement of this group's experience indicates that STEP was successful in stemming the treatment group's summer learning losses in that site. In spite of nearly equivalent first-summer losses and school-year gains among San Diego treatment and control youth, control youth there lost significantly more than treatment youth in both reading and math during the second summer. San Diego treatment youth also gained significantly more than control youth in knowledge about contraception and substance abuse.

## COSTS

The average cost of providing one summer of work experience alone in the federal summer jobs program (SYETP) is approximately $700 per enrollee. The cost to society of providing one summer of STEP remediation and life skills instruction totals an additional $717 per enrollee, an increment that includes the value of contributed items, such as classroom space and computers. Few demonstration sites, in fact, had to pay for these items. The incremental cost is for a program in which operations have matured beyond start-up and 150 new enrollees are served each year.

For the whole 15-month treatment, which includes two summers and an active school-year support component, STEP's incremental cost was $1,600 per enrollee.

## IMPLICATIONS FOR POLICY AND PRACTICE

The STEP experience and research to date provide some important insights into the need, viability and usefulness of summer-based strategies to improve basic skills and keep youth in school.

STEP's corroboration and extension of previous research on summer learning loss indicate the need. The size and consistency of losses in reading and math experienced by control group youth in both cohorts is startling. The magnitude of these summer learning losses seems disproportionate to the brief period of time that elapsed while youth were working on SYETP jobs.

Though there is still a great deal to be learned about the learning loss phenomenon--whether or not it is sensitive to the type of test administered, and if and how summer losses can be retrieved during successive school years--it calls for a re-assessment of the educational importance of the summer period.

Such a reassessment would focus on the summer's emptiness of content vis a vis basic skills, rather than on its brevity as an opportunity for intervention. STEP, in fact, lasted only seven weeks--with remediation offered for about five half-days a week--and yet it was sufficient to stem substantial losses in reading and produce actual gains in math.

The nationwide summer jobs program provides one opportunity to test alternatives. Starting this summer, localities are required to assess the basic skills of the 650,000 youth enrolled in the program and to provide remedial assistance to those with weak basic skills. A survey by the National Job Training Partnership found that the vast majority of localities are organizing or planning to organize a remediation component along with their summer work experience programs in 1987.

The STEP experience in remediation--particularly the differences in approach and test results between the 1985 and 1986 summers--should offer some useful insight into the level of resources and educational structures necessary to produce short-term test results that hold promise for long-term improvements in basic skills.

STEP's operational experience and test results seem to confirm both the feasibility and importance of extended educational programming for high-risk students. STEP differs from simple school-year extension, however, by integrating into the summer's academic instruction an opportunity for low-income youth to work and earn a salary, and to discuss and learn about key life options and their implications. These additional elements may be crucial in providing the economic incentive and practical knowledge necessary for continued participation in regular schooling.

Finally, the STEP experience to date demonstrates the feasibility of public education and employment/training institutions working together to provide innovative, multi-dimensional and effective programming for high-risk youth.

Mr. **Campbell**. Mr. Chairman, let me simply conclude by saying that, overall, those who have been examining these problems believe there is a need for very fundamental changes and that there is no quick fix possible.

On the other hand, it does not mean that while the National Board, which Governor Hunt is going to chair gets its house in order and begins to do the certifying and, as school districts remodel, their also are things that need to be done immediately. I would suggest that's particularly true for the at-risk students and I'm sure that Mr. Butler will comment on that.

Among the kinds of things we can do is simply a small contribution which is to deal with the opportunity which is provided by the so-called summer vacation months. With that, I will conclude my formal testimony, Mr. Chairman.

[The prepared statement of Mr. Campbell follows:]

## PREPARED STATEMENT OF ALAN K. CAMPBELL

**Mr. Chairman....**

My name is Alan K. Campbell. I am currently Vice Chairman of the Board and Executive Vice President of ARA Services, Inc., a diversified service corporation employing approximately 110,000 workers. I have been involved over the past few years in a variety of reports concerned with the delivery of education services, particularly at the elementary and secondary school levels. My involvements have been with two CED policy subcommittees, both chaired by Owen "Brad" Butler who is here testifying today. The first policy statement proposed some major changes in the provision of education services while the second focused on the unique problems of educating at-risk youth. I was also a member of the Carnegie Task Force on Teaching as a Profession which also advocated some very fundamental changes in the structure of delivering education services.

### An Emerging Reform Consensus

These are but a few of the many reports which have been issued over the past half-dozen years, examining and making recommendations to solve what are believed to be very fundamental problems with the American education system. There appears to be a consensus emerging from these studies about what must be done. The more recent reports move a considerable distance from the first major report, The Nation At Risk, which strongly emphasized mandating changes in the regulation and direction of education from state governments and central school district offices. That report recommended the imposition of stricter curriculum standards, the increasing of the length of the school day and the school year, more homework requirements and testing of the competence of both teachers and students.

Recommendations emerging from the many reports since then have taken a quite different route toward improving the education provided by our schools. Perhaps the greatest amount of agreement has been found in the insistence that there is a need for education to stress the teaching of what are called "higher order skills". The emphasis, in other words, is not on a return-to-basics but, rather, on the proposition that if students are to compete successfully in the job market and, if American industry and services are to be competitive with our international competitors, it is essential that education provide a set of skills which go far beyond what is normally meant by the word "basic". In brief summary, those higher order skills include: the ability to draw conclusions from written information; to communicate an idea or point of view effectively in a coherent essay; and the ability to solve problems involving mathematical reasoning by using numerical facts.

### The Professionalization of Teaching

To provide an education which will give students that analytical ability will require, in the judgement of those who have been examining these issues, the accomplishment of two major goals. The first is the professionalization of teaching and the other is the restructuring of the education delivery system. These two goals are intimately interrelated since it will be essential for the schools to be restructured if there is to be created a genuine profession of teaching.

Perhaps the report which has placed the greatest emphasis on the professionalization of teaching is the Carnegie Report, A Nation Prepared: Teachers for the Twenty-first Century. Many changes in both teacher preparation and the teacher's role in the school will be required if that professionalization is to be accomplished.

The Carnegie Report calls for the creation of a National Board for the Professionalization of Teaching and that board is well on the way to being created. The board has been incorporated, members are being chosen with final appointments being approved later this month and a president now being selected. The board will be voluntary, in that teachers may or may not choose to seek accreditation. It is believed, however, that accreditation, by providing evidence of outstanding teaching ability, will cause school districts across the nation to turn to those accredited for hiring and advancement.

Consistent with the Carnegie recommendations and made about simultaneously, is a recommendation from a group of educators of teachers which calls for dramatic changes in teacher preparation. The so-called Holmes Group, an alliance of deans of major university colleges of education, has called for a remodeling of the teacher preparation system with emphasis placed on arts and sciences education at the undergraduate level to be followed by graduate training which would include extensive use of internships following the example of medical education. The Carnegie recommendations closely parallel those of the Holmes Group and recently a group of university presidents called upon higher education to turn its attention to its schools of education as a top priority for resources and for greater attention from the entire university faculty.

## Teacher Pay

None of these improvements in the quality of teaching can be accomplished unless quality young people are attracted to the teaching profession. For this to happen, it is essential that pay for teaching become competitive with other professions. No longer can the school systems rely on the bifurcated labor market which made teaching one of the few professions to which women could aspire. Increasingly women are selecting other professions which promise substantially greater remuneration.

Already the shortage of teachers is pushing pay higher but it still lags considerably behind other employment opportunities. Further, there is going to be a very, very large demand for teachers over the next half-dozen years as the present workforce reaches retirement age and if current turnover rates continue. It is estimated that nearly fifty percent of the teaching work force will have to be replaced in the next five years which means nearly 1.3 million new teachers will need to be hired between 1986 and 1992. If all of these teaching positions were to be filled by recent college graduates, it would require that 23 percent of all such graduates enter the teaching profession. That is unlikely to happen and, fortunately, if there are sufficient changes in the teaching profession it is likely that workers from other careers might decide to give teaching a try. Fortunately, some states are looking for ways of accomplishing that by providing for entry into teaching for those currently in other professions by making available appropriate academic training while simultaneously providing opportunities for closely-supervised teaching experience. Governor Kean who is here to testify today has provided leadership for exactly that kind of program in New Jersey.

## Restructuring Schools

Still, for teaching to become a profession it will require more than higher pay and a change in teacher preparation. The opportunity in the schools for teachers to function like professionals is also essential. The "teacher proof" systems that have typically been imposed on teachers, making schools not unlike the 19th century mass production institutions of our economic system, will not provide that opportunity for professionalism just as the production line mass production of our industry is no longer adequate to deal with the new market demands of our society....market demands which are being met as well if not better by foreign competitors.

Instead, a system is required in which considerable autonomy is granted to individual schools and where teachers working together can adjust curriculum and teaching techniques to fit the kinds of students they are educating. Such freedom implies a cooperative environment - an environment in which there is continuous interchange among the teachers, where they are given the opportunity to provide leadership, where the more senior teachers will mentor the younger teachers, and where there is a genuine opportunity for outstanding performance to be rewarded.

To accomplish this the Carnegie proposals include the creation of a category called "lead teachers". Lead teachers would become the education leaders in their schools. They would work with both other teachers and the school administrators to develop programs and to work with parents to create an atmosphere of collegiality.

As described by the first CED report, it would be a bottom up rather than a top down system. The models used to illustrate what is being suggested include both the kind of autonomy granted to operating units within business firms and the managing partners in professional firms like those in accounting and the law. That autonomy would provide opportunities for adjustments in education programs to be made that fit the nature and character of the student body and would carry with it the opportunities for teachers to distinguish themselves and to, thereby, rise to higher levels in their schools and in the profession.

## Accountability

Such a system obviously requires a system for accountability and it is on this point that the greatest amount of controversy has emerged. Unlike either private sector or professional firms, it is much more difficult to define a bottom line in the public sector in general and particularly in education. There exists in the teaching profession a great deal of resistance to the use of standardized testing of students in order to determine how well the school or individual teachers are performing. Since the background and preparation of the students are likely to vary substantially from student to student and from school to school and, because of danger of "teaching to the tests", teachers are fearful - and I think with some justice - that such a system of accountability could lead to a deterioration rather than an improvement in the quality of education.

Accepting that danger as being real, it is still essential that, if individual schools and school districts are to be granted greater autonomy, thereby being in more control of the processes of education, a way must be found to determine whether that autonomy is producing improved educational outputs. What is needed is a system which will include not only testing but equal emphasis on other outcomes, such as reduction in drop-out rates, degrees of parental involvement as well as a testing of socialization skills. It certainly does not seem impossible to me for such outcome measures to be developed. The education research community needs to direct its attention to this need and federal funding of such research could help accomplish that objective.

If such outcome measures are not developed, it will be necessary to continue the present system. With its emphasis on mandating process, that is: the dictating of curriculum, lesson plans, length of class periods and school day and other requirements as a means of attempting to guarantee the results desired. Such process control flies in the face of the kind of autonomy and freedom which a professional must have. It would continue the mass production model of education which served this country well at an earlier stage in its history but which simply is not applicable to the current economy and the contemporary needs of society.

There are a good number of schools and school districts across the country that are experimenting with various versions of a restructured school model which grant much greater autonomy at individual schools. Early returns are encouraging, as is the willingness on the part of school officials at all levels of the school governance system, as well as teachers and their unions, to undertake such dramatic change. The recent school contract in Rochester, New York, is but one example of school board, school administrators and teachers working together to design a system which will create the kind of autonomy and professional environment many are advocating. It is well to note in passing that the Rochester contract has established the lead teacher concept, with such teachers receiving an annual salary of $70,000 a year. Just to demonstrate that it also can be done within a very large urban school system, there have been established in the New York City system two elementary schools which are teacher managed and which have produced outstanding results with a collegiality system that has generated great enthusiasm among students, teachers and parents.

## Reform and At-risk Students

One of the persistent criticisms being made of what might be called the mainstream education reform proposals is a believed lack of relevance for education of at-risk students. We all are aware of the large number of students who are dropping out of school and for whom there are few, if any, job opportunities. They simply do not have the kinds of skills necessary to compete in the current job market. Even with employment becoming more readily available and with the labor market tightening, there are still substantial numbers of young people unable to compete in that market because of a lack of those minimum skills necessary to perform in today's economy.

I would argue that many of the proposals contained in the reform proposals are as relevant to these students as they are to more middle class, traditional students. Nonetheless, it is true that, if the early recommendations of simply raising standards were imposed on the school system, it probably would result in a substantial increase in the number of student drop-outs. In commenting on this problem, Harold Hodgkinson, has said, "A majority of the reformed states have in essence moved up the high jump bar from four to six feet without giving any additional coaching to the youth who were not clearing the bar when it was set at four feet. This is bad coaching and worse educational policy."

Although the basic thrust of professionalizing teaching and restructuring schools is relevant to the particular education needs of at-risk students, it is equally true that special and concentrated efforts and resources must be applied to the provision of education services to these students. The recent CED report, Children In Need: Investment Strategies for the Educationally Disadvantaged, on which I am sure that Brad Butler, who chaired the Committee which produced the report, will comment, addresses its entire attention to that issue; therefore, I will not comment extensively on the full range of activities and programs which need to be undertaken to address the educational needs of these students. Those programs, as that report makes clear, must begin with the pregnancy of those likely to give birth to disadvantaged students and continue through early childhood education programs with continued emphasis at all stages of the schooling cycle.

I will restrict myself to commenting on one program in which I have been involved that does suggest one means of addressing a part of this problem and the possibility of doing so at the midpoint of these young people's education.

I am associated, until recently as Chairman of the Board and now a board member, with an organization called Public/Private Ventures. This organization is designed to deal with the training and education of hard to employ youth. It is involved in a very large number of projects which address that problem in a variety of ways but there is one specific effort which I believe suggests substantial opportunity for further investment. The program is called the Summer Training and Education Program (STEP). It is a demonstration project designed specifically for youth under the Federal Job Training Partnership Act. The activities are focused in five cities: Boston, Fresno, San Diego, Seattle and Portland, Oregon.

The rationale for the program is based on the fact that students lose a considerable amount of their learning during the summer months. Middle class students, who lose less than at-risk students, are normally able to make it up quickly in the new school year. Such is not the case for many at-risk students who fall further behind during the summer and become discouraged as the new school year begins and as a result frequently drop out.

The program is designed to prevent that summer loss while simultaneously providing work experience. As stated in the Executive Summary of the recent report on the program (and with the Committee's permission, I would like to provide that summary as supplemental material for your report), "The STEP model aims to increase basic skills and lower drop out and teenage pregnancy rates by providing poor and underperforming youth with remediation, life skills and work experience during two consecutive and intensive summer programs with ongoing support and personal contact during the intervening school year. It builds on and enriches existing public services: work experience provided by the Federal Summer Youth Employment and Training Program, and education provided by public school resources. Thus the model requires only moderate additional expenditures to implement."

There are three parts to the program. The first is remediation, which provides 90 hours of group and individually-paced instruction in basic reading and math skills. The second is life skills and opportunities which provides 18 hours of instruction on responsible social and sexual attitudes and behaviors. And third, work experience of at least 80 hours on part time work provided by the federally-funded Federal Youth Employment and Training Program. STEP has just completed its third summer and we have findings based on the performance during the first two summers with the second summer being considerably more successful than the first.

The experiment is designed by selecting students eligible for the federally-funded summer employment program and dividing those students in two parts: those who will receive the various elements of the remediation effort with a control group that simply is provided employment. Approximately 300 students are selected for each site and, by random assignment, half are selected for treatment and half for the control group.

The first summer of the program was in 1985 and the results were encouraging if not dramatic. The program was successful in reducing by half the substantial learning losses that would have occurred over the summer without the program. Treatment youth outscored their control group counterparts in both reading and math by approximately one-quarter of a grade equivalent; however, both groups suffered learning losses during the summer although the losses of the treatment group were considerably less than those of the control group.

For the second summer, 1986, the curriculum was refined and an effort was made to recruit teachers who were sympathetic with the program's purposes and had demonstrated teaching ability related to students of this kind. As a result of these changes and because of the experience of the first summer, the results of the second summer were substantially better. The impact on the losses during the 1986 summer was more than double the effect it had had in the summer of 1985. The majority of learning loss in reading was stemmed. In fact, STEP youth scored 6/10 of a grade equivalent higher than control youth. Even more encouraging was the result in math where not only was the loss eliminated there was, in fact, a gain. At the end of the summer, treatment youth scored slightly higher in math than they had at the beginning of the summer and 8/10 of a grade equivalent higher than the controls.

In view of these results, the costs, it seems to me, are modest. The approximate cost of providing under the federal summer jobs program work experience is approximately $700 per enrollee. The additional cost of providing the remediation described is $717 per enrollee and this cost includes the value of contributed items, such as classroom space and computers. Few demonstration sites, in fact, had to pay for these items and therefore the out-of-pocket cost was considerably less.

For the entire fifteen-month treatment - that is, two summers and the intervening academic year - the incremental cost for the remediation program is approximately $1,600 per enrollee.

## Summary

I have tried in this brief summary to do two things; first, to describe what I believe is a growing consensus about what has to be done to provide an education system that is relevant to the demands of the market place with an emphasis on a need to fundamentally restructure both the education profession and the school system. Even if started now - and it is encouraging that a great many changes already are occurring - these changes will require time and persistence.

Second, I have described a program which appears to be promising in dealing immediately with at-risk students who are now in school. The cost of such a program does not seem high in view of the potential contribution it can make to solving a problem that the mainstream of education reform will address only over the long term. Since that program is already tied to a federal activity in the jobs area, I suggest to the Committee that it examine the federal summer job program with a view to requiring the incorporation in that program of an education component.

That completes my testimony and I will be delighted to respond to questions as well as to exchange views with my colleagues on the panel.

Representative SCHEUER. Thank you very much, Mr. Campbell. We will proceed with Mr. Cole. Please take your 10 or 12 minutes.

## STATEMENT OF JOHN COLE, VICE PRESIDENT, AMERICAN FEDERATION OF TEACHERS, AFL-CIO, AND PRESIDENT, TEXAS FEDERATION OF TEACHERS

Mr. COLE. Thank you, Mr. Chairman. I want to begin by thanking you for the opportunity to be here. I am honored to have a chance to be in the same company with the gentlemen who are here and begin by saying that I totally agree with all that I have heard from Governor Hunt and Mr. Campbell.

I would add one thing, though. No matter how good a candidate for teaching may be and no matter how good the faculty and the school may be, with the present structure that we have in our high schools, I believe we are setting them up for failure.

In fact, I am quite confident that Socrates could not teach in our schools today the way they are structured.

The schools that we see today, the structure that we have, arose from a different era. In the early part of this century we had a different America to work with and we had millions of jobs in the fields and on the assembly lines all over the United States. There seemed little need for some great quantity of Americans to have a knowledge of physics or algebra or to be able to have the higher order thinking skills when jobs were plentiful in areas that did not demand those skills.

As our Nation developed into this strong industrial nation we have today, we tolerated for a long time a waste of human potential, especially in the part of the country where I am from where for a long time we wrote off a whole class of people and said it's unnecessary for them to be educated at all. But even for those who were not black or hispanic in the case of Texas, schools were a place where the mass received a basic education and an elite perhaps graduated and received a very find education. For the people who survived that system through the 12th grade, it was a very fine education. That was not a very large percentage, however, of the student body that was available.

During the 1950's and 1960's when this situation began to change through legal pressures, social pressures, and just simply the recognition of the Nation that we could not tolerate this vast waste of human potential through lack of education, our schools suddenly had to gear up and deal with providing education for a great mass of people.

At the same time we did this was during the baby boom when we also just had a bunch of new bodies that had to be dealt with.

The schools resorted—not perhaps consciously but it evolved into this—into a sort of a factory system. The schools became more like—especially this is true in high school, by the way—more like the great industrial factories of the 19th and early 20th century than like the centers for learning and intellectual development that we perhaps would like for them to be.

True, there is not an assembly line, but in most high schools today there is something like that. You have a corridor. Each teacher is at a station. A bell will ring. The line does not move but we have mobile units of production. They move themselves and they cluster at a work station where a teacher for 45 minutes or so attempts to pour learning into their heads and then the bell rings and they get up and leave.

When you think about the assumptions behind this, one of the assumptions is that every student will learn the same amount in 45 minutes or perhaps if they don't it's because they didn't have the capacity or the teacher didn't pour correctly or something like that; when in fact we know that that's not the case.

We know that some students will come to that room and in the first 10 minutes will understand everything the teacher is going to say and spend the next 35 or 40 minutes drawing isosceles triangles or woolgathering or acting out. Some students, on the other hand, when the last bell rings will get up and leave just as puzzled as when they walked in the door. And yet the next day the bell will ring again for that same class and they will all start at the same place, one student having wasted fully three-quarters of that hour, another student still at the starting point of the day previous and having lost a full day and unable to figure out where they are starting today.

We have other examples that I can give of such things that don't make sense, unless you look at them as merely a way to mass produce units of learning, thinking of students as sort of units of learning on any assembly line.

I suggest that our schools are not going to be able to teach the higher order of learning skills that we wish they would teach and not be able to provide the kind of education that we should be able to provide in that type of environment.

It is an environment in which—by the way, we should pat ourselves on the back to a certain degree. We have conveyed a very basic education to a large number of people. We set out with that goal and we accomplished it. They can now read a cereal box, an exit sign, and most commonly they can find their way around the streets of town using the street signs.

They cannot, on the other hand, in great numbers read an airline timetable and millions of graduates cannot write a letter to an employer offering good reasons why they should be employed and persuading that employer to hire them.

But having provided a basic education, as Mr. Campbell suggested, is not going to be good any more. In fact, a basic education will educate them very well to sign their unemployment checks and it will provide them a way to go collect in the welfare lines. It will not give them the kind of jobs that they need to have if we are to compete internationally in the high tech world that we are going to face in the future.

Now I am not saying that our schools cannot meet the challenge because I believe they can. The American Federation of Teachers believes that the public schools can meet the challenge of the future, but we believe it must be restructured. All of us involved in education will be challenged by this restructuring—administrators, parents, school boards, teachers, students.

We may have to challenge some basic assumptions that we have and accept some basic changes in the way our schools are structured. We propose that we scrap the factory model school and replace it with what we call the learning center school. A learning center school might vary from place to place. I think it would be wrong to throw out one model that we try to impose on everybody and replace it with another model that we try to impose on everybody.

Here are some of the characteristics it might have. First of all, school activities and school arrangements should be designed to facilitate learning and examined solely on that basis rather than meeting bureaucratic convenience.

Second, the role of teachers must be professionalized. They must have more responsibility, authority, autonomy, and they must be recognized as people who are capable of making decisions and who are worthy of trust.

We should use a variety of instructional methods. We shouldn't assume that every child learns the same way and we must have a team effort in our schools with everybody involved in that team from the busdriver that drives them to school all the way up to the top level professional.

Now we think that the State and local elected leaders should continue to set goals and should continue to be the force that directs the overall thrust of our education. But the methodology, the techniques, and the means for achieving those goals should be left in the hands of professionals as close to the individual student as possible.

Administrative bureaucracy should work to empower teachers, to free them from their administrative chores so that the teachers are able to do the teaching more effectively.

Now teachers for their part may have to accept more responsibility. We should not simply turn our heads when we see a problem in the schools and say, "Well, my job is to stand at this work station and instill learing in these students for 45 minutes and the problem across the hall is not mine." We will have to change that attitude.

To that end, we need to upgrade the quality of our teachers as well and we will have to participate in that. AFT has called for and fully supports the creation of a national board for professional teaching standards and we certainly support the efforts of the Carnegie Foundation to achieve that goal. We need to get that board established and we need all the help we can get in accomplishing that.

We think teachers should be the instructional leaders of the school. If we are to provide them with the autonomy they need, they must have the capability to provide that leadership. That implies they will be very highly qualified people, very capable people. It also means they will have to accept more responsibility for it.

Now in replacing all of this, the egg crate school we sometimes call it, where they have little cartons on the side of the corridor, and creating this team concept, there are many who would tell us that this is pie in the sky. I believe they are mistaken. We've heard Rochester cited. There are also exciting experiments going on in Miami, FL, in Dade County, in Cincinnati, OH, and New York City has recently experimented with some things; Hammond, IN; and Pittsburgh, PA.

What we partially need is some help in doing research on which of these models work. And the two questions that you asked us to address——

Representative SCHEUER. Excuse me. I'm going to have to ask you to address them in about 10 minutes. We have another roll call vote.

Mr. COLE. I'm going to address them very briefly.

Representative SCHEUER. We will suspend for about 10 or 12 minutes.

[A brief recess was taken.]

Representative SCHEUER. The hearing will resume. Mr. Cole, you were about to give us your concluding thunderbolts.

Mr. COLE. Very good. First, I want to thank the Chair for helping me make my point about the bells. I notice when the bell rings here everything stops, too. [Laughter.]

The two areas you asked us to address are what can the Federal Government do and why is Federal leadership needed?

I think we need support from the Federal level, financial and otherwise, for the Carnegie Corporation's efforts in the areas of teacher certification and restructuring and we will need funding for innovative and creative pilot projects in our schools. We don't know which of these models will work. It would be worthwhile to try out several and see which ones are most successful.

Finally, the resources of the Federal Government could help us encourage such innovation on the part of our schools do research in more effective ways to structure schools and inform educators generally of the exciting results achieved in the pioneering school systems which have taken on this challenge.

We have given the committee a report that we did called "The Revolution That Is Overdue." A copy was included with the material we gave to you and I would like to see this also entered into the record. Thank you very much for the opportunity to be here today.

[The prepared statement of Mr. Cole, together with the report referred to, follows:]

## PREPARED STATEMENT OF JOHN COLE

Mr. Chairman & Members of the Subcommittee:

I am John Cole, and I am speaking today on behalf of the American Federation of Teachers, which is a labor organization representing 660,000 educational employees across the United States. We thank you for the opportunity to appear before you and present our ideas on the question of "The Schools: Why High School Students Fail to Meet the Standard and What to Do About It."

We are delighted that the Joint Economic Committee is studying this issue, which is so inextricably linked to America's ability to compete with other nations in today's, and tomorrow's, global economy.

The schools that we commonly find today in America are structured to meet the needs of a bygone era. With millions of available jobs in the fields and on the assembly lines, American workers of that era did not need advanced academic skills. To perform a simple task at an assembly line required, in most cases, only simple literacy and a working knowledge of basic arithmetic.

Thus, America thrived with schools which offered the basic to the great majority of young people, and a quality education for a small slice of society. Nationwide, the dropout rate was high, hovering around 75% until about the 1950's, and this does not count the millions of black Americans in the South who were denied any education at all. Those who did have access to schools and who stayed in school through graduation often received a top-quality education, but, for most Americans, a good education was a luxury.

Judged by the standards of those times and by the minimal goals set for them, schools in that era were highly successful. In the small, one-room schoolhouses of rural America, students of varying ages and levels of achievement worked together, older students helping younger ones. In the smaller, rural school systems of that era, little bureaucracy hampered the teacher's efforts to tailor instruction to student needs.

Lest we become too fond in our remembrance of that bygone era, we must remember that only a few benefitted fully from those schools. Most Americans were either denied access to a high school education during that era or could not afford the foregone earnings. Few Americans needed even a high school education to earn a decent living. Indeed, a 6th, 7th or 8th grade dropout could expect to earn more in a factory that his teacher did.

In the 1950's, and still more in the 1960's, American schools, under legal and social pressure, began to recognize that denying equal educational opportunities represented a tremendous waste of human talent. It wa also clear that the world had changed and lack of education had become a serious economic, solid and civil liability to the individual and to the nation. In response, schools strived to achieve equal access to education for all Americans. Quality frequently suffered, many educators did not know how to reconcile equality with quality in education, and so standards often took a back seat as students were encouraged to attend school, stay in school, and receive a diploma.

This change in philosophy also came during the "baby boom," providing the schools with the double challenge of opening school doors to minorities while accommodating millions of new students of all races. At the same time, rural America shrank as millions of people moved to the cities seeking jobs that no longer existed on the farms or in the small towns.

Schools reacted to this pressure for mass education by adopting the techniques of mass production in the factory. This process began in schools in the last 19th century when factories were being developed and universal common schooling was within reach. With each successive stage of mass education, more and more elements of the factory model were adopted in the schools. That 19th century factory model of schooling is still very much in place in high schools today.

Under this model, students cease being individuals and become units of production, each unit to be treated as identical to the other units. The students enter school at the same time, study from the same materials, hear the same lecture from the teacher, spend the same amount of time covering the material, and take the same standardized tests.

The bell rings; the students come into the room; the teacher teaches for about 45 minutes; the bell rings again; those students move out, and another group moves in. The assumption seems to be that all students are more or less the same and will learn at the same pace, with the same instructional method, but we know that assumption to be false.

One student will understand the teacher's lesson completely after the first ten minutes of instruction and will spend the rest of the class dozing, doodling, or woolgathering. Another student will still be trying to come to grips with the concepts when the final bell rings and will leave the class puzzled and frustrated. In neither case will the school structure allow the teacher to come to grips with the student's problem, for the bells must be served; the assembly line allows little room for individualization. The one accommodation to differences, tracking or ability grouping, works hardly at all. Even so-called "same ability" classes have enormous variation, so the problems persist. And, as research tells us, lower tracks tend to get a watered-down education and become the "seconds" of the factory systems of schooling.

The teachers in this factory-model school work near the base of a decision-making pyramid, with a steady flow of paperwork, regulations, and directives coming down from the top. Teachers′ ability to exercise professional judgment, to direct studentlearning, or to tailor instruction to meet individual students′ needs is minimized. Increasingly, principals and other supervisors monitor teachers′ performance with checklists, much in the same way as some factories have monitored the performance of workers on the line. In many school systems now, teachers are told what to do, how to do it, when and for which standardized test, based on some mythical, composite "average" student dreamed up in some distant central office and never yet seen by a real teacher. In such a model, teacher initiative is stifled, creativity discouraged, and individuality punished.

Under such factory-style models, we have opened the schools to a much larger portion of society. However, 700,000 students drop out each year, about 25% of all students. Fifty percent of Hispanic students drop out, and about 40% of all blacks fail to finish school. We can hardly call this a success.
How about the quality of education offered under the factory model school system? According to the National Assessment of Educational Progress, "students at all grade levels are deficient in higher order thinking skills." Of those students who stay in school until age 17, only about 20% will be able to write a letter to a prospective employer, and only about 4.7% will be able to understand an airline timetable. This is a record of which we can hardly be proud.

If there is an area in which we can claim success under the factory model, it is in teaching basic reading skills. Virtually all graduates of our schools can read a street sign, a cereal box, or a comic book. Is this enough, though, to allow a person to enjoy the blessings that our democracy should bestow on its citizens?

In fact, the international economy in which today′s workers must compete demands much more of students than a knowledge of basic arithmetic and reading. James O′Toole, Professor of Management at the University of Southern California, has observed, "Soon there will only be work for those who have the skills of speaking, listening, observing and measuring, and the confidence to use their minds to analyze and solve problems. Those who succeed in the work force will be those who have learned how to learn--the unthinking jobs will be done by machine."

Put another way, a knowledge of basic reading and arithmetic will prepare a person for the unemployment line and the welfare check, but not for a good job and a decent life. At best, a person lacking higher-order thinking skills will end up sweeping the floor and carrying out the trash for those whose education prepared them to deal with the increasingly complex, high-tech economy of tomorrow. The irony is that despite all the evidence that our problem is with the failure to teach higher-order skills, not basic skills, (a failure that the factory system of education encourages) most reform and legislation has aimed to improve the factory systems of schools.

If our schools are failing to meet the challenge of today's education, how can we hope to meet the tougher challenges which lie ahead? The American Federation of Teachers believes that the public schools can meet those challenges, but not as presently structured. All of us involved in public education--teachers, administrators, parents, school boards and students--must be willing to accept some basic changes in the way our schools operate.

AFT has proposed that we scrap the factory model school and replace it with the concept of the "Learning-Centered School." In such a school, the learning needs of students and not the bureaucratic functions and custodial needs of the system would drive the organization of schools. Rather than asking the students and teachers to the demands of the system, the system would be altered to reflect what is known about how children learn and how teachers make that possible. Rather than having students be the passive recipients of information that teachers, impact to them, students would be knowledge workers and teachers the professional "coaches" working with students in a variety of ways and through diverse means to develop their intellectual skills and dispositions.

This is not to say that we should not have standards for students. We should have standards and high standards at that. The change should be in the way we go about meeting those learning standards.

The structure of the "Learning-Centered School" might vary from place to place, depending on the needs of the students and the methods of the teachers, but here are some of the characteristics of such schools:

1. All school activities and arrangements (student grouping, class sizes, timing, grading, length of day/year, courses, curricula, uses of technology, etc.) should be examined solely based on how they contribute to student learning, rather than bureaucratic convenience.

2. The role of teachers should be professionalized, to assure them the education, responsibility and authority to make the fullest possible range of decisions affecting instruction in and operation of schools, within the context of broad goals set by

state and district.

3. We should use a variety of instructional personnel in schools with different levels of training, responsibility, and remuneration, enabling us to create a career path within teaching and to use our staff most efficiently.

4. We must create an effective team effort in every school involving all school, employees: secretaries, cafeteria employees, maintenance, transportation and security staffs, etc. This would include providing all with recognition, training, career growth opportunities, and increased responsibility for making decisions close to their jobs.

The elected leaders, both at the state level and at the school board level, should continue to set the goals of public education. However, the goal must be to give teachers the greatest possible discretion in deciding the technique, the strategy, and the methodology for achieving those goals with an individual student or a class of students.

Administrative bureaucracies should work to empower teachers, to free them from administrative chores so that teachers can practice their profession more effectively.

Teachers, too, will have to assume more responsibility for their own profession. Standards for entry into teaching must be rigorous enough to insure that our students' intellectual growth is in good hands. To that end, AFT has called for the creation of a National Board for Professional Teaching Standards, and we support the efforts of the Carnegie Corporation to achieve that goal. The Board envisioned in the Carnegie Report needs federal support in order to get established. While the Board will eventually be funded by charging for its services as other professionals do, start-up money is needed to capitalize the Board's operations. One thing that the Congress should do immediately is to appropriate some funds to get the Carnegie Board off the ground. This would be a positive step on behalf of school and teacher improvement.

In addition, we believe teachers should be prepared to take on more responsibility for the operation of schools. Teachers should be the instructional leaders of the school, taking responsibility for the training of new teachers, the development of curriculum, the selection of textbooks, and other professional matters.

How might a school look under our proposals? We suggest it would be wrong to replace one "standard model" with another. Different schools might approach their unique challenges in different ways. Here, though, are some suggested models:

1. Teacher-run schools, with a group of teachers taking on school site management responsibilities, employing an

administrator to handle the day-to-day administrative tasks. Under this model, a school might have no "principal" but might opt instead to hire business managers from outside the field of education.

2. Schools where the principal becomes the school advocate, serving as a liaison with central governance bodies, parents, and the community, with teachers making decisions about and implementing the instructional and curricular functions of the school.

3. Schools where the principal acts as a the building manager, implementing the educational program and school discipline policies designed by teachers and carrying out district and state reporting requirements. Under this model the principal would be responsible for working with personnel not directly involved in the school instructional program and with the coordination of student services provided by outside agencies.

In the classrooms of the above schools, the "egg-crate" school would be replaced by a school in which professional teachers employed computer technology, video tape and video disks, and other technology as well as more conventional approaches, to provide students with different methods of learning. Instruction would be delivered through an instructional team: para-professionals, intern teachers, instructors, parent volunteers, student tutors--all working with and directed by lead teachers with National Board Certification. Class sizes could vary, depending on the the nature of the instructional task, and instead of rigid, "Carnegie-units" of instruction--45 minutes 5 times a week, no matter what the subject or student--flexible schedules would be the order.

The above vision worries some people in the educational community. Change is sometimes frightening, and inertia is a powerful force. Some school administrators fear that their power and status will be reduced by such restructuring. On the other hand, unions must be willing to adopt a more cooperative and less adversarial relationship with school boards.

Still others think this is pie-in-the-sky, a vision that could never become reality. They are mistaken. Some bold leaders have already begun to implement the concepts we have discussed. In New York City; Toledo, Ohio; Hammond, Indiana; Cincinnati, Ohio; Miami, Florida; Pittsburgh, Pennsylvania; and Rochester, New York, AFT locals have negotiated agreements with local school boards which have allowed the restructuring to begin. AFT applauds those pioneers, and we hope others will be encouraged to follow in their footsteps.

In your invitation to me, you asked me to address two points specifically, "Why national leadership is necessary and what the federal government can do to help." First, we need support, financial and otherwise, for the Carnegie Corporation's efforts in the areas of teacher certification and restructuring. We also need funding for innovative and creative pilot projects in our schools. Finally, the resources of the Federal government could help us encourage such innovation, do research on more effective ways to structure schools, and inform educators generally of the exciting results achieved in the pioneering school systems which have taken on this challenge.

We have provided the Committee with a copy of "The Revolution that is Overdue," a report prepared by the AFT Task Force on the Future of Education. That document describes in greater detail the ideas which I have outlined briefly today.

Of course, I would be delighted to answer any questions you may have.

Thank you for the opportunity to appear before you today.

SPECIAL ORDER OF BUSINESS

# the Revolution that is Overdue

## LOOKING TOWARD THE FUTURE OF TEACHING AND LEARNING

A REPORT OF THE AFT TASK FORCE
ON THE FUTURE OF EDUCATION

SUBMITTED BY: AFT EXECUTIVE COUNCIL 1986

## The Context

For the past two years, the nation has been in the midst of an education reform movement aimed at ensuring that the public school system prepare students for the future and thereby secure the vitality of America. More rigor has been introduced into curricula, and standards have been tightened. Teachers' salaries have been modestly increased, and some other additional resources have been pumped into education. Traditional friends of public schools have been reactivated, and new allies in the business and political communities have been found. In general and after a period of torpor, the interest and concern of the public have been redirected to public education. Throughout this period, the AFT and its affiliates led many of these changes, supported others, and, equally important, beat back most of the dangerous and simple-minded proposals masquerading as education reform. It was a time of both opportunity and danger, and the AFT's ability to seize and shape the opportunities on behalf of its members and public education earned us unprecedented and invaluable recognition.

But there is little reason to be sanguine about the future of public education. Despite recent polls indicating somewhat greater satisfaction with public schools as a result of the reform movement, public education is still in peril. The grades the public gives public education are still low. Fanned by the current administration, support for vouchers and tuition tax credits is still at an unprecedented high. The traditional political base of public education is eroding, along with the proportion of the population with school-age children. As for students, performance is still unacceptably mediocre, in terms of their own future needs and those of the democratic society they will inherit.

The "first stage" of education reform therefore has provided only partial relief to the problems threatening public education. One reason is that the public expects education reform to produce higher student achievement, but such gains are neither easily nor quickly obtained. While it is unrealistic to expect immediate, tangible improvements from recent reforms, it seems equally true that if positive results are not forthcoming, there will be a backlash against public education, and one from which we may not readily recover.

A second, and more significant, reason for the problems persisting in public education is that much more reform is required, and of a far more basic nature than the first round of reform afforded. Indeed, even if all the better reform measures of the past two years were enacted, they would not be sufficient to ensure a well-educated, democratic, productive citizenry—an education of value for all the nation's children, not just some. They would not be sufficient to attract and retain a talented teaching force, without whom a fine education system, let alone an education reform movement, is impossible. And they would not be sufficient to ensure the future of our union. For as long as the educational function of our public schools is impaired, as long as teaching is not a full profession and teachers are disabled from assuming both the responsibilities and prerogatives of professionals, public education will remain in jeopardy and, with it, the future of our union.

## Introduction

The AFT Task Force on the Future of Education therefore believes that there is a need for a second stage of education reform to sustain and extend the more promising features of the first stage and to correct its oversights and deficiencies. One of the chief, and most dangerous, omissions of the current reform movement is the failure to take seriously enough the fact that over half the nation's teaching force will have to be replaced over less than the next decade. However, the requisite supply, let alone education's fair share of talent, is not forthcoming. The demographics are against us, as are the prevailing salaries and professional conditions of teaching.

To date, virtually nothing positive has been done to attract and retain talented teachers into the nation's public schools. Instead, the historic tendency in education to meet shortages by lowering standards is once again being pursued as a matter of public policy. This policy must be vigorously resisted. It is a threat to all students, but particularly to disadvantaged youngsters for whom public education represents the best chance of full and equal participation in American society. It is a threat to our current members and to the vitality of our union. And, above all, it is a threat to the future of public education. The second stage of reform therefore should be responsive to the demographic and structural changes now affecting our society, to the needs and aspirations of our members, and to the nation's need for a well-educated, democratic, and productive citizenry.

To fulfill these requirements, the second stage of education reform should seek the full professionalization of teaching and the restructuring of public schools to promote student learning. In asserting these goals, the AFT Task Force on the Future of Education recognizes that they are not novel ideas for this union. While some of the concepts in the following report may be new, then, the basic philosophy underlying it reaffirms the core of our beliefs as a union. Throughout its history, the AFT has recognized that unionism and professionalism are inextricably linked and that public schools must be, first and foremost, institutions of teaching and learning. We have made significant achievements on behalf of our members, and we have made significant contributions to public education and to the protection and promotion of American democracy.

But our vision as a union is only partially realized. Much more is required, now and for the future—for our members, for unionism as we practice it, for public education, and for the nation.

The following recommendations therefore represent a set of steps toward the further realization of this vision. They are not "specifications" for what to do tomorrow at 9 A.M. but, rather, the direction the Task Force firmly believes the AFT should be pursuing. Nor do these recommendations represent a comprehensive map of our vision or even of a second stage of education reform. Some territory is missing, other terrain needs to be more fully charted. In part, this is a result of the Task Force's brief tenure, relative to the time required to explore new ideas fully and responsibly and to suggest their implementation. And in part, it is also because the Task Force views the following ideas and recommendations as a beginning, a bold one to be sure, but only a beginning.

The Task Force anticipates and urges AFT members and affiliates to engage in a process of education and discussion of these ideas, as the Task Force itself did. For it is through the collective wisdom of our members, fortified by open and vigorous discourse, that we will continue to be both innovative and responsible, on behalf of our members and for public education. There is much more to be done.

# THE PROFESSIONALIZATION OF TEACHING

The AFT recognizes that individual teachers act professionally and there is currently in place the best teaching force the nation is ever likely to see, if present conditions are not altered. Nonetheless, teaching is by no means a **profession**, by any accepted definition of the concept, nor are teachers treated as full **professionals.**

The ill effects of the status and conditions of teaching as an occupation on teachers and students have long been known to the AFT. Indeed, at the heart of the revolution the AFT wrought in pioneering collective bargaining for teachers, and central to the AFT vision of teacher unionism, was and is the belief that unionism and professionalism are inextricably linked—that collective bargaining for teachers was and is an important means of attaining the professionalization of teaching and the betterment of public education.

The AFT therefore has a long and proud history of seeking professional-level salaries and benefits for its members, improvements in teacher education and in the knowledge base of teaching, rigorous entry standards, limitations on class size, decision-making authority for teachers, restraints on the power of supervisors, working conditions that enhance teachers' ability to teach, professional development opportunities, and a host of other particulars related to professional matters. We have made great gains for our members—and shudder to think about how much worse the circumstances of teachers and public education might have been in the absence of the revolution we wrought.

But there is currently a crisis of standards in this nation, and it threatens to wipe out all the gains made on behalf of the teaching force over the past decades and, with these gains, public education as a viable, vital democratic institution. Precipitating this crisis is a massive teacher shortage. During less than a decade, over one half of the current teaching force—over one million people—will be retiring. But neither the number nor the quality of individuals needed to replace the current, able teaching force is forthcoming. Aside from a few saints, talented individuals will not be attracted to an occupation with low salaries, limited autonomy and authority, and tough working conditions—a nonprofessional career with few extrinsic rewards and rapidly diminishing intrinsic rewards.

At the same time, the nation is experiencing a baby "boomlet," the proportion of at-risk students is growing, and the quality of education required by all students must be increased if the American standard of living and the democratic institutions that sustain our freedom are to be preserved and strengthened.

Given the scenario facing our nation—a smaller absolute number of college-age individuals, and consequently, an even smaller pool of prospective teachers, few incentives to enter teaching, the ability of other sectors to outbid education for talent, monetarily and otherwise, greater student numbers and needs—**the professionalization of teaching is not only desirable, it is a necessity.**

The AFT recognizes that although the professionalization of teaching was not previously achieved, the nation nonetheless benefited from a variety of demographic and social conditions that assured a steady supply of talented teachers, comprised largely of women and minorities. There have been teacher shortages before, although none of this magnitude. More important, during prior teacher shortages, there was little problem in securing for education its requisite share of talented individuals. The prevailing demographic and social conditions, pernicious though some of these were in terms of equal opportunity for women and minorities, were favorable to the education sector.

It is now a different world.

If the current salary and professional conditions of teaching persist, and if states and localities continue to meet the teacher shortage crisis by issuing credentials to any warm body, not only will teaching be entirely degraded as a career but public education and the students that represent the future of this nation will suffer irreparable harm.

The following recommendations are therefore designed to ensure the future of public education and the democratic society it helps support by securing and retaining an adequate number of talented teachers through professionalizing teaching.

## PROFESSIONAL SALARIES

- Because of the existing shortage of new teachers and the expansion of that shortage between 1986 and 1995, the AFT advises state federations to seek state-mandated minimum starting salaries for application during this projected ten-year period of teacher shortages, where states fall below competitive standards. Such state-mandated minimum teacher salaries must be designed on a state-by-state basis to make entering salaries for new teachers reasonably competitive with entering salaries in that state for other professions requiring comparable education and training. State-level minimums also can be improved upon through bargaining at the local level.
- Because of the existing and impending shortage of teachers, which is in part due to the expected retirement of a substantial share of the experienced teaching force, additional monies are urgently needed to retain experienced teachers. Such funds should be generated at the state level, in addition to higher minimum salaries, and can be improved upon through bargaining at the local level.

## SHORTAGE AREAS

- As an incentive to attracting and hiring teachers in all areas of shortages, as they develop, the AFT recommends that locals and school districts consider placing entering teachers in areas of shortage on higher steps of the salary schedule. The salaries of certified teachers currently teaching in these shortage areas should be raised in those instances where placing an entering teacher in a shortage area on a higher step results in the experienced teacher earning less money.

- To meet the current shortage and enable talented liberal arts majors, subject area majors, and college graduates with substantive knowledge in areas of critical shortage who have been in other careers, the AFT supports supplementary licensure programs, coupled with rigorous internships under the guidance of experienced teachers for at least the initial year of teaching. Supplementary licensure and internship programs should in no way be designed or used to reduce or undermine standards for entering teaching. They should, instead, be an alternative route to attaining professional standards.
- To attract former teachers back into the profession, the AFT recommends that such teachers be placed at least on the salary schedule step they had attained in the year in which they left teaching.
- In defining areas of shortage, it is important to account for all areas of shortage, as they develop, and not single out one subject area or grade level. It is critical that policy makers refrain from responding to teacher shortages by hiring unqualified individuals. Therefore, in addition to the recommendations above, the AFT urges states and localities to explore credit for academically equivalent work experience outside of teaching, flex-time arrangements, incentives to retain retiring teachers and utilize the expertise of retired teachers, and other means of attracting and retaining qualified teachers.

## SHORTAGE OF MINORITY TEACHERS

Of vital concern to the AFT is the recruitment and retention of minority teachers. In view of our significant role in the civil rights movement, our historic achievements in securing minority teachers equal rights and equal opportunity in the union movement and in the educational enterprise, and because of our belief in the desirability of having schools staffed by teachers who reflect the diversity of the nation's heritage, the AFT views with alarm the shrinking number of minority teachers.

To address this concern, the AFT urges and endorses efforts to eliminate substandard educational opportunities, which contribute to inadequate school and test performance by a disproportionate percentage of minorities.

The AFT also proposes the following course of action at the national, state, and local levels:

- Emphasis on a national level to address issues of recruitment and retention of minority teachers as an area of critical shortage.
- Programs at the high school and college levels to identify talented minority students who are potential teachers, to diagnose their academic strengths and weaknesses, to strengthen their general school performance, to prepare them adequately for and in college, and to improve their performance on college-entry and teaching-entry tests.
- Scholarships and loans at the state, local, and federal levels, with targeted funds designated for minorities.
- Target teacher recruitment and intern programs at institutions that attract significant numbers of minorities.

## TEACHER EDUCATION AND INDUCTION

- All teacher education candidates should have a broadly based, liberal arts undergraduate education, with at least one subject major.
- All prospective teachers should have a well-structured induction program that includes a one-year internship (for which they could be paid as intern teachers) under the supervision of an experienced, knowledgeable teacher.

All beginning teachers should be reviewed and assessed by experienced teachers who are prepared for this responsibility. The induction program should also involve a residency as a beginning teacher beyond the internship. Peer assistance and review would be applied throughout the residency.

- Experienced teachers should be involved in the planning and development of internship, residency, and peer programs, through the agreement of their union.

## TEACHER TESTING AND CERTIFICATION

- A new national, nongovernmental board of the teaching profession, composed of a majority of experienced teachers, should be created. The board would develop professional standards for teaching on the basis of the knowledge and clinical practice base in teaching and oversee the development of a new national assessment procedure for the professional certification of prospective teachers. The assessment should include high-quality procedures to examine subject-matter knowledge and pedagogical knowledge, as well as providing for a well-structured clinical induction experience. Each component of the development and implementation of the assessment should be vigilant about safeguarding objectivity and avoiding racial bias, avoid explicitly or implicitly endorsing any "one best method" of teaching practice, and take account of the diversity of students and settings that prospective teachers will face.
- Board certification for new teachers should be awarded only upon successful completion of a rigorous teacher education program, passage of a national teacher entrance examination developed by the profession, and demonstrated teaching competence in intern and residency programs.
- Although board certification initially would be voluntary, states should give serious consideration to adopting the professional certification standards promulgated by the national board as a basis for state teacher licensure.

## PROFESSIONAL ADVANCEMENT

- In the future, experienced teachers should be eligible for professional career advancement through advanced certification by the new national professional board. This board would set the professional standards for such advanced certification and determine whether a candidate had met these standards. Such advanced certification should be voluntary and open to all teachers who sought it.
- Teachers should have a variety of opportunities for performing professional roles and advancing within the teaching profession, while continuing to be practicing teachers. Teachers should also have the option of working on ten-, eleven-, or twelve-month contracts in order to perform professional responsibilities while retaining their status as teachers.
- Teaching must be structured as a lifetime career. Teaching and traditional administration/management must be considered as two separate careers, and teachers' salaries should not be limited by the salaries paid to administrators/managers.

## TEACHER MOBILITY

Although we live in a mobile society, teachers face many roadblocks to practicing their profession if they choose to or are forced to change geographic locations. Teachers moving from state to state must be recertified and often are required to obtain as many as fifteen or more additional college credits. Most states also require teachers who are new residents to teach at least three years, regardless of previous experience, before qualifying for tenure. Teachers who move to a new district or state are placed on lower steps of the salary scale than their many years of experience warrant and often also lose much or all of their pension entitlements because teacher retirement plans are not transferable.

Because these practices discourage individuals from entering or re-entering teaching, encourage experienced teachers to leave the profession, exacerbate the teacher shortage crisis, and frequently result in unqualified people being hired to teach in place of qualified teachers, the AFT recommends that:

- Vigorous steps be taken toward the attainment of reciprocity of teacher license recognition from one state to another. A means for achieving such reciprocity that warrants serious consideration would be for states to adopt the professional certification standards promulgated by the national board as a basis for state licensure.
- The requirement of earning additional college credits be based upon need and not be an automatic consequence of having changed districts or states.
- School systems preserve full tenure rights and credit on the salary schedule for lifetime teaching experience, regardless of where these were earned.
- Pension programs should allow teachers who move from state to state to be employed or re-employed without losing benefits.

# SCHOOL STRUCTURE AND GOVERNANCE

The American Federation of Teachers believes that all decisions regarding the establishment, maintenance, or reform of school structure and governance must be based on their effect upon student learning. The litmus test of all such decisions is whether they positively affect student learning and facilitate teachers' efforts to provide that learning. Therefore, all AFT recommendations are based on the assumption that schools must be learning centered with teachers empowered to carry out their responsibilities.

A great deal has been written and discussed about effective schools. Such schools are learning centered. Descriptions of academically effective, learning-centered schools share common factors across the studies and reports: (1) clear goals related to academic learning, (2) high expectations for students and staff, (3) a stable faculty with a clear sense of school ownership and community of shared interests, (4) strong leadership in support of the learning goals of the school—exemplified by a respected principal who involves teachers or a group of teacher leaders, (5) collegial relationships/collaborative planning among teachers and administrators, (6) school-wide staff development, (7) school site management, (8) learning time given priority, (9) frequent student assessments and feedback, (10) community and district support, and (11) a safe and orderly climate with clear and fairly enforced discipline codes.

These school characteristics are consistent with AFT's goals and policies related to the professionalization of teaching. They are also in line with AFT's long-standing positions in support of high quality standards for students, teachers, and other personnel. However, these "effective school" factors are **descriptive** rather than **prescriptive**. That is, they tell how an academically effective school appears; they imply but do not necessarily guide how to create such a school.

As public schools are currently organized, the only way for teachers to advance professionally and monetarily is by leaving the classroom. This structure diminishes the importance and value of the role of the teacher and thereby impairs student learning. In contrast, it is the fundamental premise of learning-centered schools that teachers are at the core of school success. To recruit bright teachers, equip them with highly sophisticated skills through rigorous training, and then offer them little opportunity to apply their knowledge and skills in school decision making inevitably will drive capable people away from teaching. Teaching must instead be structured as a lifetime career.

The AFT therefore strongly recommends that schools and school systems abolish the factory model of education-management, which treats teachers as workers who must adhere to predetermined practices and follow endless rules and regulations, even against their professional judgment, and assumes that students are passive, uniform cogs in a production process. Professionalizing teaching begins with a clear recognition that teachers must become much more self-regulating, that traditional management responsibilities in public schools must be altered, and that the organization of learning must put student needs above bureaucratic convenience.

The following recommendations therefore support the creation of learning-centered schools and advance the professionalization of teaching:

## GOALS AND DECISIONS

- In a democratic society, the general goals and learning outcomes for schools are established by states and local communities. However, the means to achieve these state and local goals are best determined by those responsible for the implementation of the educational program at the local school site. Teacher unions, as the collective voice of the teaching profession, must be involved in the development and implementation of education policy matters at all levels.
- School faculty and staff must share in the establishment and maintenance of school goals and values consistent with required state and local education outcomes.
- School site autonomy must be increased, with greater decision-making power invested in classroom teachers.
- Schools should operate in a collegial and participatory fashion under the leadership of the teaching faculty. All building employees should be recognized as contributing to the efficient operation of the school.

## LEADERSHIP

- As progress is made in restructuring schools, the AFT supports an even greater distinction than currently exists between the roles of teachers and those who do not teach. Teachers should assume the appropriate instructional and curricular functions currently exercised by those who do not teach.
- Teachers should be the instructional leaders of the schools and should be responsible for making decisions about instructional strategies, staff development, curricular materials, pupil assignments and scheduling, structure of learning time during the school day, instructional goals beyond those set by the state or local school board, school-level budgetary matters, and elements of professional evaluation.
- The role and function of managers in a learning-centered school must continue to be explored. Different roles and models have been suggested:
  1. teacher-run schools with a group of teachers taking on school site management responsibilities, employing an administrator to handle the day-to-day administrative tasks, which could include the employment of managers from outside the field of education (see 3 below);

2. principal as institutional advocate who also serves as a liaison with central governance bodies and the community, with teachers empowered to make decisions about and implement the instructional and curricular functions of the school;
3. principal as building manager who implements the educational program and school discipline policies designed by teachers and carries out district and state reporting requirements. The principal is generally responsible for working with personnel not directly involved in the school instructional program and with the coordination of student services provided by outside agencies.

- ■ Teachers' salary levels should not be limited by the salaries paid administrators.

## STRUCTURE

If a group of experienced teachers were brought together and given the opportunity to design a school structure from scratch, the chances of their reaffirming the present structure would be remote. Beginning with the isolated, cellular organization of classrooms on to the whole top-down, "egg-crate" structure of the typical public school, there is a series of obstacles to effective teaching and learning. Present classroom arrangements, for example, force teachers into spending most of their time lecturing and maintaining order, and sometimes even require them to be entertainers rather than teachers in order to hold the attention of their usually excessive number of students. The professional ideals that drew teachers into teaching in the first place—working intensively with students, preferably on a more individual basis, intellectual challenge, cooperation, and control over one's work, to name but a few—are everywhere thwarted.

It is little wonder, then, that such an alarming proportion of teachers "burn out," leave, or become cynical. For even under more enlightened school administrations, the present school structure makes it difficult for teachers to function as full professionals on behalf of their students. In all too many schools, it has become increasingly difficult for teachers to deploy human, curricular, and technological resources within the school, as necessary, to work with students individually or in groups, and to interact with and learn from their colleagues.

The costs this factory-model school system imposes on students are also considerable. Students learn in a variety of ways and through a variety of means, and these patterns frequently vary even subject to subject. The present structure takes little or no account of this. Students are individuals, some of whom need intensive help from a variety of sources in order to attain mastery, others of whom can function more independently, and most of whom embody diverse needs, depending on the situation. The present structure takes little or no account of this. Some students who could forge ahead may be held back by the needs of the majority of their class or grade, while others who encounter difficulties that might be easily detected and rectified under a more flexible class, grade, and curriculum structure may be left back unproductively and become tomorrow's dropouts. The present structure takes little or no account of this. All students require problem-solving and critical-thinking skills, as well as basic skills, and prompt and constructive feedback on school and homework assignments. The present structure, with its fixed and excessive class sizes, takes little or no account of this.

The dysfunctional nature of the present structure has become increasingly apparent to the AFT. This is evident from the massive defections of teachers from the teaching ranks and in the criticisms of those who remain. It is evident in the staggering dropout and failure rates, particularly among disadvantaged students. And it is evident in the low performance of average and even gifted American students relative to their counterparts in other developed nations.

Rethinking the present structure of schools is therefore an essential precondition to the creation of learning-centered schools. The AFT recommends the following preliminary steps toward the realization of this goal:

- Time is a key element in restructuring teaching and schools. Time for teachers to teach, to plan, to continue learning, and to make educational decisions requires alterations in current teacher loads and creative uses of technology, paraprofessionals, and other instructional personnel under the direction of teachers. Current teaching loads therefore must be reduced and restructured to achieve these goals. The prevailing principle should be to improve, rather than diminish, students' access to professional teachers.
- In contrast to the current system in which students are assigned a new teacher(s) every year, and in order to enhance teachers' ability to make appropriate instructional decisions for students and students' prospects for receiving individualized attention, the possibilities of new arrangements should be explored, such as having staff teams take responsibility, perhaps over periods of more than one year, for determining the instructional needs of groups of students, providing appropriate follow-up, and monitoring their progress.
- Paraprofessionals involved in instruction must be well trained and certified and given greater responsibility for working with students while under the direction of teachers.
- Learning-centered schools should employ a variety of informational technologies, including video, audio, and computing resources; however, the use, assessment, and refinement of these resources should be part of the professional task of teachers.

## PROFESSIONAL DEVELOPMENT

- Staff development should exist on a continuum beginning with an internship and continuing throughout one's professional life. Continued professional development should be a normal job expectation and occur within the regular school day. This could include regular reviews and observations by colleagues, demonstration teaching, coaching, and opportunities for conducting independent research.

## EVALUATION

- Beginning teachers should be assisted and assessed by experienced teachers prior to certification.
- Following implementation of high-quality teacher internship and residency programs and when teacher-directed professional growth opportunities are a regular part of the school program, peer assistance and intervention should be used to safeguard standards within the profession.
- Intensive evaluations of certified teachers should occur only when serious problems are evident.

## ACCOUNTABILITY/REGULATION

- In order to help ensure the establishment and maintenance of at least the minimum conditions necessary for teaching and learning to occur, an index of essential learning-input conditions (such as teachers teaching in field, adequate teaching resources and supplies, up-to-date and adequate numbers of textbooks, etc., etc.) should be developed and schools should be publicly rated every year or two under the criteria established by the index. The AFT should consider encouraging states to pass such Fair Learning Conditions Acts, with rigorous state and local enforcement provisions, so that schools that consistently fall below the minimum learning-input standards can be brought up to par.

- Although learning-centered schools and professional teachers must have flexibility to meet the needs of students, the public necessarily requires accountability. Central school system administration and state governments therefore should monitor the progress of schools. However, regulation and intervention should be applied to the school site only if the school fails to meet minimum learning-input standards outlined in an index of essential conditions for a learning-centered school or other appropriate problem indicators, such as high teacher turnover, dropouts, violence, and poor student performance.
- The autonomy of teachers in school sites is predicated upon norms and standards of practice established by the teaching profession.

### THE ROLE OF THE UNION

- The details of the various mechanisms described herein should be developed and implemented through the participation of teachers and through the collective bargaining process or memorandum of understanding at the local level or through a collaborative agreement.
- Collective bargaining contracts should continue to allow for flexibility in mutually agreeable experimental programs at the school site.

## PUBLIC SCHOOL CHOICE

Choice within the public schools exists in many forms: magnet schools, alternative schools, schools within a school, open enrollment, and elective courses, among others. The AFT recognizes, however, that for both parents and teachers, current choices of educational programs may be unnecessarily limited, largely by the wealth of a district or the inflexibility of central or school administration. The AFT therefore remains open to the discussion of choice options within the public school system if such options fulfill the educational conditions, goals, and outcomes duly established by states and local communities.

Our openness is a cautious one, for we recognize the pitfalls of the choice issue, even within the public school system. These pitfalls involve the need to balance the public or social interest against individual interests and to avoid the kind of racial, class, and ability segregation that is antithetical to the mission of public schools in a democratic society. Any consideration of a public school choice proposal must also be sensitive to the protection of the rights of teachers.

# THE ROLE OF THE UNION

Throughout its history, the AFT has recognized that unionism and professionalism are inextricably linked. That basic precept has shaped our activities and clarified the role that a union of professionals must play. The AFT pioneered collective bargaining for teachers and other education employees. A strong union structure has been established, an effective political action capacity developed, and considerable power and authority have been moved to our members.

Through these means—collective bargaining, political action, and professional development assistance—we have made significant achievements on behalf of our members and have overcome tough obstacles in the face of difficult conditions and changing requirements for public education. We will continue to use and develop these means to bring about change and improvements in the status and conditions of teaching and to enhance the quality of education. And we now have a special opportunity to build on our achievements and to advance the teaching profession.

The American Federation of Teachers has a responsibility to play a significant role in the education reform movement. It is crucial that the quality and level of education received by Americans be improved. As a union, we can make an important contribution to assure that there will be sufficient numbers of qualified teachers to teach America's children and that those teachers will have professional authority over teaching practices. In fact, the unprecedented attention given to education at this time by governors, legislators, the business community, and the public at large presents an opportunity to achieve gains for our members and for public education that may not come our way again soon.

The AFT realizes that certain conditions must be met if we are to be successful in our obligation to represent members in their relationship with management, protect the institution of public education in the environment in which it exists, and protect the institution of democracy in America where we are privileged to live and practice our profession. Consequently, the union's role in education reform is an important part of the union's primary responsibility of effectively representing its members. Past achievements were made possible because hundreds of thousands of individuals who joined our union because of a belief and a vision remained to build an organization capable of meeting the challenge we now face.

We are about to experience the largest shortage of teachers in the history of American education. Some of the first efforts at education reform have resulted in overly prescriptive changes affecting professional conditions and discouraging the choice of teaching as a career. Pay and status in teaching, while showing recent gains, remain below levels in other professions. To overcome the shortage while resisting the erosion of professional standards, we must attempt radical, rather than incremental, changes in the basic structure of American education.

Our organizational goal is to preserve public education while empowering teachers to exercise independent professional judgment in educational matters. This means we seek to restructure the present public education system and obtain for teachers the legitimate authority to make decisions affecting their work. We will not exchange one set of prescriptive controls for inflexible working conditions established in any other manner. The union is a force in the education system for the practicing professional because it represents and asserts its members' interests in improving the profession and the quality of education.

- The AFT seeks to empower teachers to gain legitimate responsibility and authority for teaching and the learning environment in the schools, to retain independent decision making in matters relating to the profession, and to assist in obtaining the resources needed to provide a high-quality education program. The union welcomes proposals that can help achieve these goals.

- The AFT should provide a forum for the exploration of developments in the advancement of the profession and other aspects of education reform, consider national policies and responses related to these developments, and provide research and staff support for affiliates.
- The AFT should, at the same time, be involved in providing assistance for activities that will strengthen the capacity of state federations and local unions in efforts to organize and represent members. The AFT should assist in the establishment of union structures, provide for leadership training and assistance, and help our locals develop the skills and programs that they require to represent members and participate in the development and implementation of education reform issues.

Opportunities to advance the interests of members can take many forms, and we should be open to these opportunities while we seek to develop our capacity to represent our members' interests. The union consists of locals in various stages of development and maturity. Because of the different conditions and the variations of experience, some state federations and locals will necessarily choose different ways to advance the profession. At each level of governance, we should use the tools available to us—collective bargaining at the local level where possible, heightened political and legislative activity at the state level, and union-sponsored programs to enhance the profession.

There are significant opportunities in the education reform movement for emerging locals and state federations. By being open to new ideas and involved in their development, drawing on the resources and experience of other segments of the union, locals can provide a stronger voice for their members. This involvement can result in important improvements in education and gains for teachers and other school employees and can also help the union grow. The growth of the union is important to the education reform movement because of the special relationship of the union to its members. Teachers and their unions will evaluate proposals, develop new concepts, and serve as the vehicles through which the new reform measures will be implemented. The most valuable reform proposals are those that support these opportunities.

The consideration of new ideas and involvement in education reform activities should enhance the efforts to strengthen our ability to represent members. In fact, such involvement may suggest the importance of organizing and prove useful in broadening our sense of purpose for the organization. As that strength is established, the union can effectively insist on the involvement of teachers in any activity relating to the profession and obtain, through bargaining or collateral activity, the conditions of employment sought by its members. At the same time, we must continue to target resources and efforts toward building strong local unions in new areas.

The following considerations should guide state federations and locals engaged in the development of education reform proposals:

- Teacher unions, as the collective voice of the teaching profession, must be involved in the development and implementation of education policy matters at all governance levels. The union's role is to provide leadership through informing and educating the membership about the latest developments in education reform and by taking the initiative in suggesting new education reform policies.
- Participation of the membership in developing, deciding, planning, and implementing reform proposals is critical to the acceptance of reform by members. The local, state, and national structures should encourage opportunities for broad participation by members in the process.
- The collective bargaining process or collaborative agreements at the local level and the legislative process at the state level are important means to rely on in the exploration and development of various reform proposals.

- The discussion of reform proposals and the experience of other state federations and locals can provide valuable insights to state and local federations about new approaches that can help us achieve our goals. AFT locals and state federations have gained experience in successfully bargaining new measures to enhance teachers' professional lives, as well as lobbying for educational improvements at the state legislatures. We should make every effort to find ways to come together to share these experiences for the benefit of all.
- Members can benefit from efforts by state federations to bring together locals to achieve state education reforms. The coordinating role of the state federation is crucial in the political debate surrounding education reform issues. A strong state federation program is imperative to ensure the ability of the union to provide effective leadership in education reform.
- State federations and local unions need to expand their political action capacity so that reform activities requiring legislative activity or political responses can be achieved. State federations and local unions are urged to commit specific resources to achieve this goal.
- In developing programs to explore and implement education reform, we need not draw resources away from our present activities but, rather, develop new resources to meet the needs of our membership as a consequence of reform proposals.

Representative SCHEUER. Very good. Thank you. Mr. Brad Butler, we will hear from you and hopefully hear some of your great contributions as a distinguished leader of the American business community.

## STATEMENT OF OWEN B. BUTLER, FORMER CHAIRMAN OF THE BOARD, PROCTER & GAMBLE CO.

Mr. BUTLER. Thank you very much, Mr. Chairman, and thank you for this opportunity. I'm going to take your invitation literally. I would like to be totally extemporaneous.

Representative SCHEUER. Good.

Mr. BUTLER. I am not going to try to reiterate things that are in the prepared statement or that are in either of the two CED reports, "Investing in Our Children" [1] or "Children in Need." They are available in print. If you would like executive summaries for the record, we would be happy to furnish them.

Representative SCHEUER. That would be splendid.

Mr. BUTLER. What I would like to do in this personal appearance is to be very personal and to try to summarize——

Representative SCHEUER. We should have made you the lead witness. Maybe the example would have had some salutary effects.

Mr. BUTLER. Well, I would like to summarize, Mr. Chairman, what's happened to me is 5 years of total immersion in this project on which you are embarked. It began 5 years ago last April at a meeting of the Committee for Economic Development when we were discussing productivity and world competitiveness and we were listening to a panel composed of a Cabinet member, the Chairman of the Council of Economic Advisers, and two corporate chief executive officers who talked for a solid hour among themselves about productivity and U.S. competitiveness.

And I was shocked and disturbed that at no time in that hour was the word "education" used nor did the words "human resources" appear. We talked entirely about more capital investment, more savings, more technology. Those things are important, but my absolute conviction from 40 years in the business world and shared by 150 years of Procter & Gamble leadership is that people make productivity, not machines; and that without the right people you cannot have a productive, competitive society. And the way you develop that resource is through education.

We then embarked on a study of education as it related directly to the U.S. economy. One area in which we concentrated was employability. We felt an obligation as the Nation' employers to tell young people and teachers and parents what characteristics were required for employability, and we developed very complex research conducted among the first-line supervisors who do the actual employment of young people.

The answser we got was crystal clear. There are two essentials for employability, and only two. This was true whether they were large businesses or small businesses. Those two essentials are true literacy, the ability to speak and to hear, to read and to write the English language fluently and with true comprehension and true ability to articulate ideas. And included in that is the ability to communicate mathematical concepts because without that there is no true literacy.

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[1] The report entitled "Investing in Our Children" may be found in the subcommittee files.

The other one which has not been mentioned in most of the education reform movement is work habits, attitudes and behavior patterns. The attitudes and behavior patterns that a young person brings to the workplace are just as important and just as essential as the skills and we think the education community and the parents have in recent years largely neglected the impact of the invisible curriculum run by parents and schools to teach work habits.

I listened to a learned Ph.D. at a chief State school officers' meeting earlier this week talk about the importance of a child having work experience to be prepared for work when he or she graduates from school. And I said, "When I was in school, school was a work experience." I think we have lost a lot of that and I think it's an important area of reform that has been neglected.

The other thing I have learned as we've moved through 5 years of this is that the marvelous efforts now underway which I think Governor Hunt really launched in the American educational system and which so many others have contributed to in the last 5 years are terribly important and will in fact do a great deal to improve the quality of the work force represented by that 75 percent of the young people who are being served by our educational system.

I am pretty well convinced that those reforms will do almost nothing to help us reach the other 25 to 30 percent of young people who are not being served by the system. We are convinced as CED, and I as an individual am thoroughly convinced, that the place where we must change our approach in order to adequately educate those young people is to intervene in early childhood.

Many of the high school dropouts, we are convinced, really dropped out in first grade. They were kept in school.

Representative SCHEUER. Well, actually, don't a lot of them appear at the school house door at age 5 or 6 in a dropout condition?

Mr. BUTLER. Yes, sir.

Representative SCHEUER. Many children come from homes where both parents are illiterate, where they have never seen a book or a magazine or a newspaper, where there isn't cerebral conversation composed of sentences and paragraphs going on. These children don't know how to tell time, don't know the days of the week, don't know colors. Aren't these kids, absent remedial education starting very early, pretty much foreclosed from education success from the first day they go to a school if that isn't until the child is 5 or 6?

Mr. BUTLER. It took me a whole book to say what you just said, Mr. Chairman, but that is my conviction. Those children don't drop out in high school, as you say. They either drop out in first grade or they have dropped out before they ever got to first grade.

Representative SCHEUER. And they drop out in first grade because they were out of the learning process.

Mr. BUTLER. Because they are losers. They cannot compete and nobody likes to do something at which he or she continually loses. So these children find other avenues to use their energy, whether it's shooting baskets or stealing hub caps, but they will do something at which they can be competitive.

The most profitable investment we can make to improve education for that group of children is to intervene early—ideally at conception. What happens to that child before the child is born has an immense impact on whether that child will ultimately drop out of school.

A low birth-weight baby is ten times as likely to need remedial education. We have evidence. The Ypsilanti study is too small. I wish it were larger. But it's the only study we have that is thorough and blind-paired and longitudinal for 20 years so that you can track. And the evidence, though small, is compelling that the taxpayers' money invested in that kind of early childhood intervention is returned to the taxpayer four times over, plus interest and inflation.

There is no better investment in this country. There is no better investment that we can make than ensuring that pregnant teenagers get continued education and get, in addition to reading and work habits, an education in personal health care.

Representative SCHEUER. Perhaps the only better investment than that would be to have family life education and some family life services either in the school or convenient to the school so that the young lady wouldn't get pregnant in the first place.

Mr. BUTLER. Amen. And one of the advantages of a good school for teenagers is that she doesn't get pregnant the second time so that in the best of all possible worlds you ultimately break that cycle.

The other thing of which we have become convinced is that any programs that are designed for disadvantaged children, whether, it's prenatal care, whether it's elementary school, preschool or high school, we must reach out and involve the family. We must succeed in bringing some member of the family or guardianship of that child into the system so that we can work with them and get them to reinforce what's being done for the child.

I can't prove this, but I believe after 5 years total immersion—and I believe from the bottom of my heart—that nothing will improve the education for our best students more than effective early intervention with these disadvantaged youngsters so that as they move through the system they don't drag it down, they don't represent that drain on the teacher which prevents the teacher from challenging the brighter student, because the teacher is totally consumed by trying to salvage this disadvantaged student.

My 10 minutes are almost exactly up. The luckiest thing that happened to me in my life—and a lot of lucky things happened—is that I was born in America. And I am afraid that if we don't move to deal with this large and growing problem of underclass infants who are going to become a permanent underclass unless we intervene, that my grandchildren may not be so sure that being born in America was the luckiest thing that could have happened to them. Thank you, Mr. Chairman.

[The prepared statement of Mr. Butler, together with an attachment, follows:]

PREPARED STATEMENT OF

OWEN B. BUTLER

RETIRED CHAIRMAN OF THE PROCTER & GAMBLE COMPANY

AND

VICE CHAIRMAN OF THE COMMITTEE FOR ECONOMIC DEVELOPMENT

ON

"The Schools: Why High School Students Fail To Meet
the Standard and What To Do About It"

BEFORE THE
JOINT ECONOMIC COMMITTEE
OF THE CONGRESS

October 1, 1987

MR. CHAIRMAN, my name is Owen B. Butler and I am the retired chairman of The Procter & Gamble Company. However, today I am representing the Committee for Economic Development (CED), a non-profit organization of nearly 250 of the nation's top corporate executives and academic leaders who, unlike many organizations, work personally and first hand to develop statements on important national policy concerns by combining their practical day-to-day experience with objective research from the academic community.

Since 1983, the trustees of CED have devoted a considerable amount of the institution's resources to finding ways to develop the nation's human resources to their highest possible levels.

Their concern in this area has been deeply rooted and most recently was heightened during a time when the CED Board was engaged in a study on U.S. productivity and our worldwide competitive position. Like many other groups both inside and outside of the government we devoted considerable attention to such issues as capital investment; speeding up the introduction of new technology; increasing U.S. savings for investment; and other steps to enhance our "tools" or "hardware" of production. But the further we looked into these as potential policy prescriptions the more the corporate individuals involved became convinced that while the "tools" of production are important, the single most important contributor to productivity is not the tools but people. We recognized that without a highly educated citizenry the "tools" would be in the hands of those who would not be prepared to use them.

Over the past five years, CED has developed three major statements on the link between human resources and U.S. worldwide competitiveness. Two of these were the product of the CED subcommittees on education, which I chaired. The first, Investing in our Children: Business and the Public Schools, involves education K-12 and was released in the fall of 1985. This statement addressed four major areas where we believe CED could offer a unique expertise:

- Employability -- the intellectual and behavioral traits that are most important for success in the work force and in higher education;

- Educational investment -- strategies for increasing the nation's investment in education that would have the greatest payoff both for students and for society;

- Teachers and the schools -- ways to upgrade the professionalism of the nation's teachers and improve the quality of educational management;

- Business/school cooperation -- effective ways to forge business/school partnerships.

A second statement, Children in Need: Investment Strategies for the Educationally Disadvantaged, just released on September 8, 1987, focuses on the critical role of early and sustained involvement in the lives of children who are educationally disadvantaged. This approach is essential both as a sure means of enabling these children to participate fully in society and as a way of developing a qualified work force that can compete in a fast changing economy.

The third statement, Work and Change: Labor Market Adjustment Policies in a Competitive World, was released early this year. This study focuses on the impact that competition is having on the nature of work in the United States: detailing the complex structural shifts in the economy that continue to change the relative positions of the manufacturing and service industries and manufacturing and service jobs. The statement addresses the availability of new job opportunities and discusses those variables which directly affect the ability of people to cope with change and to adjust to either the loss of or to the prospects for new employment.

Taken together, these three CED statements answer several critical questions: the kind of work which is likely to be available now and in the future and for which we should be preparing our children; the extent to which our current educational policies are enabling our children to be prepared for lifelong employment; and finally, given limited resources, what kinds of investments we need to make to improve the chances that our youth of today can take advantage of to participate in the American economy and prepare them for the jobs of the future.

To quickly summarize our findings, we concluded that:

1) the future of work opportunity in this nation and the source of much of U.S. competitiveness does not involve the "line" manufacturing jobs long associated with the economic "strength" of the nation, but in new job opportunities in the service and manufacturing industries which will demand a much different and higher order of educational attainment;

2) far too many of our nation's young are graduating almost totally lacking in basic skills and problem-solving abilities and the attitude and behavior patterns that virtually all of today's employers demand and will increasingly demand in the future; and

3) given limited resources, the greatest returns on investment for competitiveness will not involve a massive vocational skill retraining of line workers, but improving the ability of our nation's

youth to learn, beginning in the earliest formative years.

4) and finally, the greatest threat to our future economic well being comes not from abroad but from our failure to address the needs of 25 percent of our nation's children below the age of 6 who live in poverty.

It might be most helpful to the committee to describe how as business people we came to these conclusions by looking at the process we followed in addressing the relationship between education and economic growth.

A close look at the educational systems of other countries with faster rates of economic growth led us to conclude that our most serious shortcoming in developing the talents of our young people was not so much a lack of good colleges and universities as it was a failure to do as good a job as we should in the earlier years -- particularly in the traditional public school grades -- elementary through high school. With that thought in mind, we formed a subcommittee to examine U.S. public education with a goal of defining its relationship to economic success and developing recommendations for improvement in the system to improve our rate of economic growth.

In forming the subcommittee, we recognized that the conclusions of business executives alone would have little credibility on this subject, and so we expanded our group to include leaders from the world of education -- teachers, union, urban school superintendents, deans of teachers' colleges, state university chancellors, and others. We limited ourselves to issues on which we thought businessmen could make a unique contribution: defining the attributes required for employability; indentifying opportunities for increasing education spending which would produce a clear and measurable long-term saving (or "profit") for the taxpayer; introducing business learning in the field of recruiting, training, management and motivation to the teacher work force; and compiling a list of successful business/school partnerships from around the country.

Although most business people on the subcommittee expected to concentrate primarily on high schools, we all agreed to look at the entire system because of the obvious importance of elementary school education to later success in high school.

Approaching this issue in the same way business executives would approach any serious problem, we spent the first two years defining the issues with as much precision as possible and commissioned careful academic research to give us the facts we needed to make sound recommendations. As a result, we were able to agree on 89 recommendations which had the unanimous support of every subcommittee member -- business people and union officers, conservatives and liberals, men and women, blacks and whites. A summary of this report is attached. As you will note, the report covers a significant range of reforms, including: curricula recommendations; what we call the "invisible" curricula of behavior and attitudes; standard setting; bottom's up policy development; investment strategies -- where the largest return can be found; the teaching profession; and management of the schools and the business role.

As the project progressed, sheer logic led us to look more and more at the early years. We also recognized that while all the reforms we were recommending might well improve the outcome for students willing and able to learn, they would only make it more difficult for those who were not prepared to benefit from school. It became obvious that "dropout prevention" programs which began during the high school years didn't work very well. The research we commissioned and the data we examined led us more and more to believe that in most cases, dropping out, illiteracy, and even teenage pregnancy and crime, were larely determined before high school age -- perhaps even before junior high school age.

From an economic viewpoint, we were frankly startled to learn that the single most profitable investment our society could make in education was not in the kindergarten through high school years, but rather in at least a year of very high-quality and expensive pre-school for disadvantaged children beginning at the age of three. At the beginning our work, most of us were simply ignorant of the fact that this was not just a theory, but a thoroughly and scientifically tested conclusion based on more than twenty years of testing. After examining the nature of the test and the conclusions reached, we concluded that we knew enough to strongly endorse the institution of this kind of program for every disdavantaged child in the United States on the fastest practical timetable. We included that recommendation in our original policy statement in 1985, and it became one of the major points of difference between CED's policy statement and the numerous other recommendations about public education which were being made by other groups. Happily, this advice has not fallen on deaf ears, and the movement toward more universally available high-quality pre-school for disadvantaged children has gained a great deal of additional momentum during the last two years.

But we at CED, and I as an individual, were not at all satisfied with what we had done. We had left an obvious, and perhaps critically important, question unanswered: "If twenty years of comprehensive testing has proven that a single year of high quality pre-school at the age of three can cut later dropout, illiteracy, pregnancy and crime rates for the affected group by somewhere between a third and a half, what other forms of early childhood support would have equally or more dramatic effects?" Was it possible that we already knew how to break the cycle of poverty which threatens not only our economic well-being, but our social and political health as well -- and that we weren't acting because the knowledge hadn't been adequately communicated to the policy makers and the public?

This is the kind of question that CED cannot duck. We immediately convened a second subcommittee with similar but not identical membership to the first to address those questions. Our earlier work had convinced us that while many of the school reforms which were gaining broad support and implementation would significantly improve the educational results for the 70-75 percent of children who finish school, they would do very little to improve our success with the children who were "dropping out", or simply marking time in school.

We scoured the country to identify and evaluate programs dealing with every element of early childhood involvement as well as "dropout prevention" and "illiteracy prevention." What we learned was both inspiring and frustrating: inspiring because dedicated people have indeed been working diligently on these problems and frustrating because their successes have not been well publicized or widely emulated.

Perhaps we haven't had our hearts and our minds as open as we should because of an attitude that I freely admit I held for years. My parents didn't finish high school -- I think my father left school for the shoe factory after the sixth grade and mother left at sixteen to be married and start her family. I don't know whether we were in "poverty" during my school years or not -- there wasn't any official designation at the time. I do know that there wasn't much work to be had in a shoe factory in Baltimore during the depression and that money was very scarce. But, I found myself saying with some arrogance: "I did all right. I worked hard as a youngster and studied hard. I got a good enough foundation in public school before the war to later earn most of a college education and a commission during World War II. I knew lots of other kids who came from economically disadvantaged homes with parents who were school dropouts; and mothers who started bearing children in their teens. If we overcame those problems, why shouldn't this generation do the same? If disadvantaged children don't make it out of poverty when we give them the chance at an expensive public school education, isn't it their own fault?"

In two more years of study of the question, I've become thoroughly convinced that the answer is NO -- in most cases it isn't their fault. What I've come to understand is that I never was a "disadvantaged" child -- in fact, I was superbly "advantaged." My parents may not have finished high school, but they were literate and they were voracious readers. The overriding ambition in their lives was to give their children the best possible chance to succeed. My mother took care of her own health while she was bearing me and my health from the day I was born. There were no drugs and no alcohol in our home. We were nurtured, encouraged, disciplined, challenged mentally and physically, taught the virtues of hard work and healthy play, and taught that our responsibility was to do the very best we could at any assignment we had. In short, we had excellent "parenting". Added to that, we had almost invariably healthy guidance from relatives, neighbors, church, and school -- all reinforcing the training we got at home.

It isn't lack of money that makes a child "disadvantaged" -- it's a lack of good parenting. But the two often are associated. Many children growing up in "poverty" households are in fact getting an excellent start from good parents, neighbors and relatives and they'll probably succeed somehow or other whether we give them special help or not. But many of the children in "poverty" households are getting grossly inadequate parenting. In some cases they have no parent, or they have parents or guardians who are themselves illiterate, are addicted to drugs or alcohol, and in some cases poverty has caused the problems, but they are closely correlated. It's those children we must help -- for our own sake as well as theirs.

We also need to recognize that this is not fundamentally a racial issue, but a poverty issue. At the same time, we must accept the fact that racial prejudice has been a major contributor to the problem and even today that race compounds the problem. I can't ignore that fact that if I had been blessed with all the advantages I had as a child in terms of loving parents, good health, and the ability to learn -- but had dark skin

-- I could not have attended the public schools I did (several of which were "special" schools within the public system), I could not have competed for the right to attend the Naval Academy, I could not even have joined the Navy as a seaman, I would not have been given the college education I received in preparation for a commission. In many cases, it's the grandchildren of the people who were denied those opportunities who need our help now.

From an economic standpoint alone, we can profit hugely by ensuring that those children get good parenting all the way from adequate prenatal care through nurturing and preparation during the pre-school years to special help throughout the school years. Preventing the illiteracy, alcoholism crime, and teen-age pregnancy into which so many of them will otherwise fall will save us far more in future taxes than the immediate cost of preventive programs.

But, for those of us who care about our country and our grandchildren, there's an even more compelling reason. Twenty-five percent of the children under six are now living in poverty, and that percentage is growing. We are proceeding rapidly to become a two-class society. If we don't act promptly to move our society closer to its historic goal of ensuring truly equal opportunity for every child born or brought into this country, we will not leave a peaceful, prosperous democracy for our grandchildren to enjoy.

EXECUTIVE SUMMARY

# CHILDREN IN NEED

## INVESTMENT STRATEGIES FOR THE EDUCATIONALLY DISADVANTAGED

THIS EXECUTIVE SUMMARY IS BASED
ON A STATEMENT ON NATIONAL POLICY
BY THE RESEARCH AND POLICY
COMMITTEE OF THE COMMITTEE FOR
ECONOMIC DEVELOPMENT

CED

# EXECUTIVE SUMMARY

Almost alone among the great nations of the world, the United States cannot be defined in terms of place of origin, race, religion, or ancestry. Instead, our nation is defined by a vision — a dream that welcomes anyone who shares it. Over the years, this dream has crystallized into a commonly shared belief that every individual in this country has a right to live in freedom, to participate in self-government, and to share equally in the opportunities for personal growth and economic prosperity.

But this vision is now becoming more distant for a growing underclass of Americans condemned by both discrimination and ignorance to only limited participation in mainstream social, political, and economic life.

As a nation, we simply cannot compete and prosper when more than a third of our youth grow up severely undereducated. As a people, we must not continue to squander the lives and abilities of so many of our fellow citizens.

This year, more than one million babies will be born who will never complete their schooling. As they reach adolescence, many will be only marginally literate and virtually unemployable. Poverty and despair will be their constant companions. Too soon in their lives many will have children of their own, thus perpetuating yet another generation mired in ignorance and want.

The nation's public schools have traditionally offered a common pathway out of poverty and a roadway to the American Dream. But today, in too many communities, the schools are ill equipped to deal with the many needs of disadvantaged children. **We believe that reform strategies for the educationally disadvantaged that focus on the school system alone will continue to fail these "children in need." We have learned from experience that effective strategies reaching beyond the traditional boundaries of schooling and providing early and sustained intervention into the lives of disadvantaged children can break this vicious cycle of disaffection and despair.**

## THE CRITICAL EARLY YEARS

Quality education for *all children* is not an expense; it is an investment. Failure to educate is the true expense. In addition to improving our schools, investing in the careful nurturing of children from before birth through age five will deliver a handsome profit to society and to the individuals and families who have so much to gain.

Early intervention is critical because too many children now lack the basic preparation in their earliest years that is critical for later success in school. By denying them the opportunity to learn and grow, we will not only be condemning these children individually but committing a terrible economic and social blunder as well. If the United States is to be a "world class" economy in the next century, then we had best begin preparing now to have a "world class" work force. The former without the latter is simply an impossibility.

Each year's class of dropouts costs the nation more than $240 billion in lost earnings and forgone taxes over their lifetimes. Billions more will be spent on crime control and on welfare, health care, and other social services. Every $1 spent on early prevention and intervention can save $4.75 in the costs of remedial education, welfare, and crime further down the road.

Our research has led us to the conclusion that we *can* rescue most of the children at risk of educational failure if we both improve the schooling offered and reach out to these children and their families in their earliest years. We *can* save many youngsters already in school, and we *can* recover many who have already dropped out.

[redacted]

Some of the changes we advocate can be put into place now; others address fundamental structural weaknesses in our public schools and in our policies toward children and youth. Long-term changes will require a sustained effort and a firm commitment over the years by a broad-based coalition of government, education, business, and community leaders. Part of this commitment has to mean an increase in our investment in youth. **Any plan for major improvements in the development and education of disadvantaged children that does not recognize the need for additional resources is doomed to failure. The price of action may seem high, but the costs of inaction are far higher.**

## WHY BUSINESS CARES

Over the past few years, the business community has become deeply involved in education reform. Equity, social justice, and the survival of our political and economic institutions compel us to address the needs of the disadvantaged on a broader scale.

If present trends continue, the scarcity of well-educated and well-qualified people in the work force will seriously damage this country's competitive position in an increasingly challenging global marketplace.

Our industries will be unable to grow and compete internationally because a growing educational underclass will lack the necessary skills and work habits to function productively on the job. Moreover, they will lack the levels of literacy needed to make informed choices about their lives or to take part in the political process.

## WHO ARE THE EDUCATIONALLY DISADVANTAGED?

We believe that children are educationally disadvantaged if they cannot take advantage of available educational opportunities or if the educational resources open to them are inherently unequal. Conservative estimates suggest that as much as 30 percent of the school population can be classified as educationally disadvantaged.

Many of these children grow up in a deprived environment that slows their intellectual and social growth. Others may be raised with expectations that are very different from those that predominate in schools oriented toward middle-class values. Many schools, educators, and policy makers — whether consciously or unconsciously — expect children from poor, minority, or other disadvantaged backgrounds to fail. Too often, such expectations create reality.

**Children and Poverty.** Some children born into poverty have the family support, the role models, and the determination to succeed in school despite their disadvantages; in fact, education has traditionally provided an escape for many children from poor families. Yet, poverty does correlate closely with school failure, especially where the family is headed by a single parent. Poor students are three times more likely to become dropouts than students from more economically advantaged homes, and schools with higher concentrations of poor students have significantly higher dropout rates than schools with fewer poor children.

Although almost two-thirds of all poor children are white, both black and Hispanic children are much more likely to be poor (43 percent and 40 percent respectively). Black children are three times more likely to live in poverty than white children, increasing the likelihood that they will be unable to break the cycle of defeat.

Disadvantaged children live throughout the nation. While 40 percent are concentrated in urban inner cities, the remaining 60 percent live in older suburbs and in pockets of deep-seated rural poverty that exist in many parts of the country.

**Children of Children.** Children from poor and single-parent households are more likely than others to be children of teenage parents and to become teenage parents themselves. By age five, the children of teen parents already run a high risk of later unemployability. Not only do teen parents often lack employability skills; they also lack the necessary resources to begin developing their children's future parenting and employability skills.

## INVESTMENT STRATEGIES FOR THE EDUCATIONALLY DISADVANTAGED

How should we respond? Clearly, we cannot continue to conduct business as usual. Incremental reform within the traditional confines of the nation's public schools simply cannot address the critical needs of this substantial segment of the school population.

It is obvious that in many communities, especially those with high concentrations of disadvantaged families, the schools need to do more to overcome expectations that their students will fail. Schools that serve the disadvantaged will need to make special efforts to reach out to parents and the community to bridge the chasms that often separate them.

**We urge policy makers to consider what we believe to be the three most important investment strategies for improving the prospects of children in need: prevention through early intervention, restructuring the foundations of education, and retention and reentry.**

**Prevention Through Early Intervention.** The educational problems of disadvantaged children are often obvious long before these children begin formal schooling. Yet, in 1986, the nation spent $264 billion on education for children age six and older, while it spent only about $1 billion for educating children five years old and younger.

It is clearly a superior investment for both society and individuals to prevent later failure by working with at-risk parents and their children from prenatal care through age five. **We call for early and sustained intervention into the lives of at-risk children as the only way to ensure that they embark and stay on the road to successful learning. We also urge that community support systems be mobilized on behalf of disadvantaged families and children. Efforts should include:**

- **Programs to encourage pregnant teenagers and those with babies to stay in school.** Developing the skills that will help them get and keep decently paid jobs can deter repeat pregnancies and avoid a lifetime of dependency. Pregnancy prevention programs should start in the middle grades to educate youngsters to the life options available to them other than early parenting.

- **Prenatal and postnatal care for pregnant teens and other high-risk mothers and family health care and developmental screening for children.** Children need to be born healthy and to stay healthy so that they can grow and develop normally. Many avoidable learning deficiencies are the result of poor health care during pregnancy and early childhood.

- **Parenting education for both mothers and fathers.** Teenage and other at-risk parents need to be taught how to care properly for their children and provide them with appropriate health care, nutrition, and intellectual stimulation. Studies of child-care and preschool programs show that the best results come from programs designed to improve the "curriculum of the home."

- **Quality child-care arrangements for teenagers in school and poor working parents.** Child care should stress social skills, language development, and school readiness. Programs for teen parents that provide onsite day care offer an excellent opportunity to teach good parenting skills.

- **Quality preschool programs for all disadvantaged three- and four-year-olds.** Quality preschool programs have been shown to improve school readiness, enhance later academic and social performance, and reduce the need for remedial education during the school years.

**Restructuring the Foundations of Education.** As they are currently structured, most public schools have not been successful at ensuring that their disadvantaged students develop the academic skills and work habits they will need to succeed on the job or in life. Children who are at risk of failing often attend schools that are at risk of failing their students. Changing the way schools relate to their students will require a fundamental restructuring of the way most schools are organized, staffed, managed, and financed. Every student must be guaranteed a chance to learn to the best of his or her ability.

**We believe that any plan to restructure public schools that serve the disadvantaged should include:**

- **School-based management** that involves principals, teachers, parents, students, and other school personnel in shared decision making and accountability for results.
- **Teachers who have made a commitment** to working with the disadvantaged and who have expertise in dealing with children with multiple problems. We are concerned with the expected shortage of quality teachers and especially minority teachers.
- **Smaller schools and smaller classes** that can raise achievement levels and increase interactions with teachers and other adults.
- **Support of preschool and child-care programs** by the school system where appropriate for the community.
- **Up-to-date educational technology** integrated into the curriculum to provide new learning opportunities for students and additional pedagogical support for teachers.
- **Support systems within the schools** that include health services, nutritional guidance, and psychological, career, and family counseling.
- **Increased emphasis on extracurricular activities** that help build academic, social, and physical skills.

**Retention and Reentry.** Millions of students reach high school age already lost to the system. Too many of these join the legions of dropouts who have few job prospects and little hope for the future. This group is the most difficult for which to make generalized prescriptions because their needs and skill levels vary greatly. **We recommend that programs targeted to students at risk of dropping out and those who have already left school should be carefully designed to meet the particular needs and deficiencies of these young people. Specifically, these programs should:**

- **Combine work experience with education in basic skills.**
- **Operate in an alternative setting that focuses on improving motivation, skills, and self-esteem.**
- **Provide continuity in funding and long-term evaluation of the success of the program and the progress of participants.**

[redacted]

## BUILDING PARTNERSHIPS: SCHOOLS, BUSINESS, AND THE COMMUNITY

Business has an important stake in helping public schools improve the way they prepare young people for the future, and it has demonstrated its commitment to educational excellence through a broad spectrum of partnerships with the schools. **Business should now focus its collaborative activities more sharply on disadvantaged children so that quality education can be made available to every child and every child is prepared to succeed in school.**

The deep-seated problems of the disadvantaged will require collaborations that reach beyond the traditional boundaries of public education. Business can help guide community resources into programs that represent the best available investments and can play a pacesetting role in providing opportunities for parents to participate in their children's schooling.

**We urge business to become a driving force in the community on behalf of public education and a prime advocate of educational initiatives for disadvantaged youngsters. The business community should also take the lead in encouraging and supporting higher funding levels where they are needed both for early prevention programs and for the public education system.**

Businesses should promote employee participation in local school district activities, and they should encourage qualified corporate leaders and managers to take an active role in the local and state policy-making process through participation on school boards.

Business should also support the involvement of parents, a key factor in student success, in their children's education. **We recommend that corporations provide release time and flexible schedules for employees who must attend to their children's educational needs or who want to serve their local school system as volunteers.** Such corporate support is especially important for hourly and other nonmanagerial employees who are limited in their ability to arrange time to attend teacher conferences or participate in school functions without being penalized on the job.

## WHO IS RESPONSIBLE?

Effective solutions will require the combined efforts of the public schools, businesses, parents, foundations, community agencies, and every level of government. Development and implementation of many of the investment strategies we recommend will require both significant increases in funding and better targeting in order to assure that the necessary resources reach those children most in need. But although the problem of educating the disadvantaged is national in scope, progress is best achieved at the state and local levels and most effectively within the individual school.

**Federal Responsibilities.** We believe that the federal government needs to reaffirm its long-standing commitment to ensuring the disadvantaged access to quality education. Without equity there can be no real excellence in education.

The federal government can set the tone and direction for change by establishing and funding demonstration projects in early childhood education, dropout prevention, and other programs targeted to improving the quality of education for children in need. Although we do not envision that all such programs will be permanently funded at the federal level, federal leadership is needed at this time to help point the way for states that do not currently support preschool education or other targeted programs.

**Because Chapter I remedial reading and mathematics programs and Head Start programs have had demonstrable success in narrowing the achievement gap between disadvantaged and nondisadvantaged students, we urge that federal funding for these programs be brought up to levels sufficient to reach all eligible children. The federal government should also conduct a regular assessment of these and other programs to help ensure that they are operating effectively.**

**State and Local Governments.** The states have clearly taken the lead in the current wave of education reform, and they have reasserted their historic role on behalf of public schools. The states are now paying a larger proportion of the education bill. In exchange, they have come to expect higher performance from local school districts and have increased both educational requirements and regulations governing how these new standards should be met.

States should assure adequate and appropriate funding for school districts whose students are most in need of additional support. However, we caution the states to resist the temptation to supplant local authority. Local school districts and individual schools should be provided with enough discretionary power so that programs are kept small in scale, remain manageable and flexible, and are able to be individualized.

Nevertheless, local school districts need to be held accountable to the community and to the education authority of their state. In individual schools, accountability for student performance should extend to principals, teachers, and parents.

* * *

Children who are deprived of a decent education can be lost in a society that requires high levels of literacy and skills to succeed. If the nation defers the expense of preventive programs during the formative years, it will incur much higher and more intractable costs for older children who have already experienced failure. Even so, we cannot limit our efforts to only one group of disadvantaged children; both economic and humanitarian considerations impel us to find ways to expand our prevention efforts, improve basic education for all students, and improve the chances of those in and out of school who have already been failed by the system.

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## About CED

The Committee for Economic Development is a private, nonprofit, and nonpartisan research and education organization whose goal is to study and seek solutions to pressing social and economic issues that most affect the long-term health of the nation's economy. CED's 225 trustees are mostly top business executives and presidents of major universities.

Memoranda of comment by members of the CED Research and Policy Committee and by members of the Subcommittee on the Educationally Disadvantaged appear in the full printed version of the policy statement.

Representative SCHEUER. There was a South African diamond magnate of the last century that said in about 1850, "To be born an Englishman is to have won the lottery of life." He would say today, "To be born an American is to have won the lottery of life, with everything that flows therefrom."

Well, thank you for your marvelous testimony, Mr. Butler. I wish we could clone you and have about 10,000 business executives like you sprinkled around the country to bring their influence not only to Federal programs but to local and State education concerns as well.

Mr. Bishop, we apparently designated you as a cleanup hitter.

## STATEMENT OF JOHN H. BISHOP, ASSOCIATE PROFESSOR, NEW YORK STATE SCHOOL OF INDUSTRIAL AND LABOR RELATIONS, CORNELL UNIVERSITY

Mr. BISHOP. I want to thank you for this opportunity to share with you some of my research about why American high school students learn so little and what we can do about it.

I would like to focus your attention on the motivation of students. Sizer concluded his 2 years of study by saying "The American high school student, as student, is all too often docile, compliant, and without initiative." Goodlad came to a similar conclusion, "The extraordinary degree of student passivity stands out."

When we do surveys of teachers, the first thing on their agenda is—they want students to respond more. They complain about the lack of interest by students.

But students are not the only ones who are apathetic. The comparative study that Harold Stevenson did of Taiwan, Japan, and the United States found that even though the American students had learned the least, their parents were the most satisfied with their schools. Why do Taiwanese and Japanese parents hold their children and their schools to a higher standard than American parents? That's what I want to address.

The fundamental cause, I am arguing, is a motivation problem and the cause of that is the way we recognize and reinforce student effort and achievement.

Our problem is that while there are benefits to staying in school, most students do not receive very large benefits for working hard in school.

This is a consequence of three phenomena. First, the labor market fails to reward effort and achievement in high school.

Second, competition for admission to selective colleges is not against an external standard. It's typically between people in the same school.

Third, the peer group actively discourages academic effort.

The lack of major rewards for effort has two fundamental causes. The first cause is the syndrome I refer to as no fault adolescence. During the 1960's and 1970's, we adopted practices and developed institutions which hid from ourselves our failure to teach, which protected our adolescents from the consequences of their failure to learn and which prevented many of those who did learn from reaping the rewards of their learning.

Most significantly, this is due to the way employers select workers. Employers select on the basis of meaningless diplomas rather than on the basis of learning achievements.

The reason they have to do that is that it's very hard for them to find out which of the graduates they might see have learned a lot in high school. Despite their higher productivity, young workers who have achieved in high school do not receive higher wage rates immediately after high school. Employers do not reward achievement because they don't know who the achievers are.

A major cause of that is that many high schools are not responding to student requests to send transcripts to employers. The experience of Nationwide Insurance is I think probably typical. Nationwide is one of Columbus' most respected employers. They ask every person who applies for a job for permission to get their transcript. They sent 1,200 such requests out to high schools locally in 1982 and they received 93 responses.

Representative SCHEUER. How many?

Mr. BISHOP. Ninety-three.

Representative SCHEUER. Less than one in four.

Mr. BISHOP. 1,200 and 93.

Representative SCHEUER. Less than 1 in 10.

Mr. BISHOP. High schools have apparently designed their systems for transcript release around the needs of college-bound students and not around the needs of the students who are going to work.

As a result, employers don't know who have been the achievers in high school. The tendency to under-reward effort in learning in school——

Representative SCHEUER. Excuse me. Can't high school students get transcripts of their own grades so that they have them themselves?

Mr. BISHOP. They could carry it around. However, it is uncustomary to do that and employers don't seem to—we haven't set up a system whereby everybody is carrying their transcripts around.

In contrast, for instance, in Germany, a German youth would be sending his grades to employers or carrying them around when he applies for an apprenticeship. Top companies in Europe and Japan pick their lifetime employees directly out of high school and use teacher recommendations and grades and national tests as modes of selection.

Consequently, we have effectively protected adolescents who don't learn from suffering the consequences of not learning. Now that's just one of the problems.

The second cause is the zero-sum nature of the academic game in high school. Under our current system, the academic side of high school forces adolescents to compete against each other. Their achievement is not being measured against an absolute or an external standard. It is being measured against each other.

Unlike a scout merit badge where recognition is given for achievement relative to an absolute standard, the only measure of achievement that receives attention is rank in class and grade point average which is a relative standard. When a student works hard in school they make things worse for their friends.

When we set up a zero-sum competition among close friends, we should not be surprised when they decide not to compete.

All work groups have ways of sanctioning "rate-busters". High school students call them "brain geeks", "grade grubbers", and "brown nosers." Let me give you a quote from a student paper. This is a Cornell student, so he made it into a pretty good school. "Erroneously, I was lumped into the brains genus by the others at school just because of the classes I was in. This really irked me. Not only was I not an athlete, but I was thought to be one of those 'brain geeks.' Being a brain really did have a stigma attached to it."

The problem that Ogbu has identified for black children is not something limited to the black population or the hispanic population. It is something common throughout the society.

Another student told me that in most of the regular classes if you raised your hand more than twice in a class you were called a "Teacher's Pet."

Adolescents do not mind working hard. Watch them working at Wendy's. Watch them working on a merit badge. Watch them at football practice. Their individual efforts are visible to each other. They are not competing against each other and they appreciate the efforts of each other. They're working as part of a team.

In sports, there is no greater sin than giving up even if the score is hopeless. On the academic side of high school, there is no greater sin than trying hard.

The lack of external standards for judging academic achievement and the resulting zero-sum nature of the academic competition also influences the school board and the political system. Parents can see that setting higher standards or hiring better teachers will not improve their child's grade point average or rank in class. Raising standards at the high school will have only minor effects on how my child does on a SAT test because the SAT test is not a test of what the curriculum is teaching. So why worry about standards?

In any case, doing well on the SAT matters only for those who want to go to Cornell or Brown. Most students are planning to attend a public college which will admit them regardless of their SAT score. All they have to do is pass the requisite courses.

The parents of children not planning to go to college have an even lesser incentive to demand high standards because they know that the labor market rewards the diploma and not knowledge of algebra. Higher standards might put at risk what is really important—the diploma. Only at the higher levels of government do we start seeing the cost of the mediocre schools. That is precisely why State Governors and State legislatures and employers have been energizing forces for reform.

However, the State governments are far removed from the classroom and the instruments that are available to them are very limited. Minimum competency tests for receiving a high school diploma are an example of an externally imposed standard. They are a step in the right direction, especially when they are taken early in school and there's a lot of extra help for this student if they fail on the first try.

But some students arrive in high school so far behind and the consequences of not getting a diploma—which is like dropping an atom bomb on a child for not learning—are so severe, we have not been willing to set these standards very high and so the incentive effect for most students is limited.

The lack of standards external to the classroom also results in students taking easier courses. Sizer observed a lot of the honor students are not questers. They dodge the hard problems, the hard courses to keep their averages up.

Given these problems, we have some teachers through brilliance or force of personality who are able to overcome these obstacles, but most mortals are not able to overcome this situation. We assign teachers the responsibility for setting high standards but we do not give them any effective means except the force of their own personality for including student acceptance of the academic goals of the classroom.

Most students view the cost of studying hard to be much greater than the benefits and so peer pressure presses the teacher to go easy.

We would like students to perceive themselves as a team and the teacher as a coach, both of them working toward a common goal. But, unfortunately, the teacher is often viewed as a judge whose only power is to reward one student at the expense of another.

What can we do about it? The key to motivation is recognizing and rewarding learning. Individualized learning goals should be established which stretch the student to the maximum extent possible. Achievement of these goals would be assessed by the school and recognized at an awards ceremony. The student would receive a competency profile describing these achievements which would aid in securing employment.

If the labor market knows who has learned what, it will provide the rewards.

The second way schools can generate stronger incentives——

Representative SCHEUER. Excuse me. Isn't a transcript really a competency profile?

Mr. BISHOP. It is not really. For instance, the standards of different courses are different and it does not describe what a person can do. We have a lot of people coming out of high school with a diploma without being able to read very well.

What you want is a checklist of things a person can do that would also describe vocational skills and a whole variety of things, and it would be a record that the student and the parents would have and as they pass and accomplish various things you check these things off. It would be a list of accomplishments that the student would have and would be a way of the parents monitoring the school and the student feeling that he's accomplishing something. Eventually it would be a credential that the student could use to look for work.

And for different students you would have different things on this so that the students who chose to emphasize one aspect of their education would have different things emphasized.

Second, we need to restructure schoolwide and classroom recognition of student achievement so that everyone has a chance to be recognized for their contribution, so that greater effort by everyone makes everyone better off and there are signficant rewards for learning and consequences for not learning.

Bloom's theory of mastery learning says that there are no differences in what people can learn, only in the rate at which people learn. Given time, everyone can achieve mastery. What we need is a massive dose of mastery learning.

The primary consequence of a failure to learn should be more time devoted to learning. Extra classes should be scheduled after school and during summer. Learning would be defined as gains in competence and gains in knowledge, not as an absolute standard of performance. Thus, it would stretch the gifted and the handicapped as well as everybody else.

The reward for successful learning would be free time. The schools would be open all day and all year and would try to attract students to stay and take extra enrichment courses during that period. The students who had not been successfully learning would be expected to stay.

Some might respond that these proposals are substituting extrinsic motivation for intrinsic motivation for learning. I think this is a false dichotomy. Nowhere else in society do we expect people to spend thousands of hours on a difficult task and receive only intrinsic satisfaction and rewards. Public recognition of achievement and the symbolic and material rewards received by achievers are important generators of intrinsic motivation. They are in fact one of the central ways a culture symbolically transmits and promotes its values.

It goes without saying that these reforms involve a radical restructuring of our schools. The incentives faced by everyone in the system would change and I'm sure this would lead to major increases in funding and investment in education and major increases in achievement. Thank you.

[The prepared statement of Mr. Bishop follows:]

# PREPARED STATEMENT OF JOHN H. BISHOP

## Why High School Students Learn So Little
## And What Can Be Done About It

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To be presented at the hearings conducted by the Subcommittee on Education and Health of The Joint Economic Committee on "Competitiveness and the Quality of the American Workforce," October 1, 1987, Washington, D.C.

## I. THE PROBLEM

The National Commission on Excellence in Education has stated, "Learning is the indispensable investment required for success in the information age we are entering." The high American standard of living has always depended on the high quality of American workers. There is no way unskilled American manufacturing workers can compete with the millions of unskilled workers of India, China and Latin America. The watchword in American manufacturing is now "AUTOMATE, MIGRATE, OR EVAPORATE." Automation, however, requires a highly skilled and flexible work force. Skilled workers are essential for the design, introduction and maintenance of the advanced manufacturing technologies that must be adopted if we are to maintain our high standard of living.

The problems that General Motors and some other companies have had in introducing flexible manufacturing technology are, therefore, a cause of grave concern . General Motors recently ripped a whole multi million dollar line of robots out of its Lansing engine plant because they could not get it to work reliably. These are very complex interdependent systems. They would be a challenge for any work force. Apparently the challenge was too great for the managers, engineers and workers GM assigned to the task. It is a challenge that other companies in other countries have also faced and overcome. GM's problem is not all that atypical for US installations of flexible manufacturing systems(FMS). Ramchandran Jaikumar found that the 30 FMS installations he studied in the US were much less reliable than the 65 comparable Japanese installations he studied. Average metal cutting time was 20 hours a day in Japan compared to only 8.3 hours a day in the US. He attributed the difference almost entirely to the more effective way the

Japanese had created and managed intellectual assets. "The critical ingredient here is nothing other than the competence of a small group of people."(Ramchandran Jaikumar, Harvard Business Review, Dec. 1986). If our engineers and workers are not capable of making advanced manufacturing systems work reliably, our future as a world class manufacturing power is in doubt.

Further insights into our productivity lag can be gleaned from Andrew Weiss's study of why Japanese electronics manufacturers are more efficient than comparable Western Electric plants. Contrary to myth, he found that the Japanese workers were more likely to be absent, were more likely to quit, and worked at a slower pace than workers in Western Electric plants. The Japanese productivity advantage derived from working smarter, not harder. The suggestions made by employees during just one year had saved $1987 per employee at one firm and $2160 per employee at another. Weiss commented that "Only an exceptionally intelligent and well-motivated labor force is likely to produce such an impressive record of innovation."(Andrew Weiss Harvard Business Review July 1984) He attributed the quality of the work force to the fact that "Successful Japanese electronics manufacturers hire very selectively and recruit the elite of the Japanese labor force." The average quality of the pool from which they select is also very high and this is largely due to the high quality of Japanese primary and secondary education.

Hunter (1983) has examined how cognitive skills improve productivity on the job. Using actual work samples (rather than supervisor ratings) as the criterion of worker productivity, he found that most of the impact of cognitive ability on productivity was through its effect on job knowledge. It is job knowledge (a vocational skill), not general cognitive ability (basic skills), that has the largest direct impact on actual productivity. This implies that cognitive skills' major contribution to productivity is that they *help the worker learn new tasks more quickly*. Promotions, turnover, and introduction of new technology make it necessary for worker's to learn new skills at many points in their life. The ability to learn and communicate must be developed early in life as preparation for a lifetime of adapting to change.

The quality of education is not the only determinant of a worker's productivity and a nation's competitiveness and standard of living, but it is probably the most important determinant that is under the control of government. Consequently, "the rising tide of mediocrity" in this arena is a cause of concern. There is mounting evidence that most young people have inadequate skills in communication, mathematics and reasoning. The National Assessment of Educational Progress's (NAEP) study of the literacy of young adults (Kirsch & Jungeblut, 1986) found, for example, that:

> 80% could not interpret a bus schedule well enough to determine when the next bus will arrive if the day is Saturday.
>
> 38% could not use a menu to determine the cost of a simple meal and calculate the change that would be received.
>
> 90% could not use unit price information to determine which product was more economical by calculating cost per ounce from cost per pound.
>
> 44% of blacks, 31% of Hispanics and 10% of whites could not even read a paycheck stub well enough to report gross earnings to date.

A NAEP study of humanities found that 17 year old high school students are woefully ignorant of American history and culture. Even though 80% were currently enrolled in an American history course, the studies found that:

> 39% did not know in which half century the U.S. Constitution was written.
>
> 68% did not know in which half century the U.S. Civil War took place.

> Two-thirds could not name the author of the Canterbury Tales or the Brothers Karamozov.
>
> Half could not identify Churchill or Stalin.

In math and science, fields which are believed to be particularly crucial to productivity and technological progress, our youth lag badly. When comparable tests were given to 17 year olds in college preparatory math and science courses in 15 countries it was found that:

> The US no longer has a higher percentage of its 17 year olds taking advanced mathematics than other Western nations. The percentage of 17 year olds taking advanced mathematics was 13% in the US, 12% in Japan, 18% in Scotland and 30% in British Columbia.
>
> "In most countries all advanced mathematics students take calculus. In the U.S. only one fifth (2.6% of the 17 year old age cohort) do." (McKnight, et al, 1986 viii)
>
> The percent of questions answered correctly by US "advanced" students was 43% in algebra, 31% in geometry and 29% in calculus. The international median in these subjects was 57%, 42% and 46% respectively. Japanese scores were 78%, 60% and 66% respectively. (McKnight, et. al., 1986, p. 125)
>
> On the international physics test first year U.S. students answered 34% of the questions correctly and second year students answered 44% correctly. The international median was 51% correct. Japanese and English students achieved mean scores of 58 and 59% respectively. (Jacobson, 1987)

Recently, there have been some heartening improvements in the academic achievement of high school graduates. Between 1981 and 1985, verbal SAT scores rose 7 points and math SATs rose 9 points. These gains, however, made up for only 1/6 and 1/3 respectively of the declines that had occurred in the previous 13 years (College Board 1985).

## II. REASONS FOR POOR BASIC SKILLS

A major reason for the poor performance of our students appears to be lack of motivation. Studies of time use and time on task in high school show that students actively engage in a learning activity for only about half the time they are scheduled to be in school. Absence rates of 15 percent or more are common. Considerable time is devoted to traveling to and from school and to and from area vocational schools or other special programs. Time is also used for extracurricular activities scheduled during school hours, for class changes, for lunch, and for other nonacademic activities.

Even when students are in class, the teacher and/or students are on task only part of the time. A study of high schools in Chicago found that public schools with high-achieving students averaged about 75 percent of class time for actual instruction; for schools with low achieving students, the average was 51 percent of class time (Frederick 1977). Overall, 46.5 percent of the potential learning time was lost due to absence, lateness, and inattention (Frederick 1979). Other studies have found that for reading and math instruction the average engagement rate is about 75 percent (Fischer et al., 1978; Klein, Tyle, and Wright 1979; Goodlad 1983). For vocational classes it is about 56 percent (Halasz and Behm 1982). When absences, nonclass time, and nonengaged class time are combined, more than half of the weekday of the average high school student is not used for learning.

In 1980, high school students spent an average of 3.5 hours per week on homework. When homework is added to engaged time at school, the total time devoted to study, instruction, and practice is only 18-22 hours per week -- between 15 and 20 percent of the student's waking hours during the school year. By way of comparison, the typical senior in a public high school spent 10 hours per week in a part-time job and more than 20 hours per week watching television. Thus, TV occupies as much of an adolescents time as learning.

Even more important than the time engaged in learning is the intensity of the student's involvement in the process. After 2 years of study of American high schools, Sizer concluded, "No more important finding has emerged from the inquiries of our study than that the American high school student, as student, is all too often docile, compliant, and without initiative" (Sizer 1984). Goodlad had a similar observation "The extraordinary degree of student passivity stands out" (Goodlad 1984). The major cause of these problems is lack of motivation.

Student apathy and student motivation are not the whole of the problem. Parental apathy and parental motivation should also concern us. One of the most striking of Harold Stevenson's findings from his comparative study of education in Taiwan, Japan and the U.S. was that even though American children were learning the least in school, American parents were the most satisfied with the performance of their local schools. Why do Japanese and Taiwanese parents hold their children and schools to a higher standard than American parents?

The U.S. lag in mathematics was revealed by the First International Mathematics Study in 1967. Test scores turned down in 1968. Why did it take until 1981 for a major educational reform movement to get underway? Why did our political system allow the quality of education to decline so dramatically? Why did we set such low standards for our schools? Why do we pay our teachers so little? Why do we give them so little respect? Thus the problem of apathy and motivation is as much a societal problem as it is a parental, a teacher or a student problem.

## III. REASONS FOR LACK OF MOTIVATION

The fundamental cause of the apathy and motivation problem is the way we recognize and reinforce student effort and achievement. The educational decisions of students are significantly influenced by the costs (in money, time and psychological effort) and benefits (praise, prestige, employment, wage rates, and job satisfaction) that result. Any number of empirical studies confirm this.[1] Our problem is that while there are benefits to staying in school, most students do not benefit very much from working hard while in school. The lack of incentives for effort is a consequence of three phenomena:

- The labor market fails to reward effort and achievement in high school.
- Competition for admission to selective colleges pits students at the same high school against each other not against an external standard.
- The peer group actively discourages academic effort.

## 3.1 The Absence of Major Economic Rewards for Effort in High School

When asked why they work hard in school and/or why they care about grades, college-bound students typically respond, "to get into college" or "to get into a good college." For students who plan to look for a job immediately after high school, however, the situation is different. They typically spend less time on their studies than those who plan to attend college, in large part because most of them see very little connection between performance in high school and their future success in the labor market. Their teachers, of course, tell them that they are wrong, that they will be able to get a better job if they study hard. They look at the labor market and can see that what the teacher says is not true. How successful their older friends are in the labor market does not depend on how much they learned in high school. And their perception is correct, at least in the short run. Consider the following facts:

- For high school students, high school grades and the abilities measured by standardized tests have essentially no impact on labor market success. They have -
  --no effect on the chances of finding work when one is seeking it during high school, and
  --no effect on the wage rate of the jobs obtained while in high school.(Hotchkiss, Bishop and Gardner 1982)

- As one can see in figure 1, for those who do not go to college full-time, high school grades and test scores have -
  --no effect on the wage rate of the jobs obtained immediately after high school,
  --a moderate effect on wage rates and earnings after 4 or 5 years,
  —a small effect on employment and earnings immediately after high school.

- In almost all entry-level jobs, wage rates reflect the level of the job not the worker's productivity. Thus, the employer, not the worker, benefits from a worker's greater productivity. Cognitive abilities and productivity make promotion more likely, but it takes time for the imperfect sorting process to assign a particularly able worker a job that fully uses that greater ability -- and pays accordingly.

The long delay before labor market rewards are received is important because most teenagers are now oriented so benefits promised for 10 years in the future may have little influence on their decisions.

## 3.2 The Benefits to Employers and Society of Basic Skills

Although the economic benefits of higher achievement to the employee are quite modest and do not appear until long after graduation, the benefits to the employer (and therefore, to national production) are immediately apparent in higher productivity.

Over the last 80 years, industrial psychologists have conducted hundreds of studies, involving many hundreds of thousands of workers, on the relationship between productivity in particular jobs and various predictors of that productivity--general achievement/aptitude tests, biographical inventories, years of schooling, grade point averages, years of experience relevant to the job, age, tests of job knowledge, work samples, peer ratings,

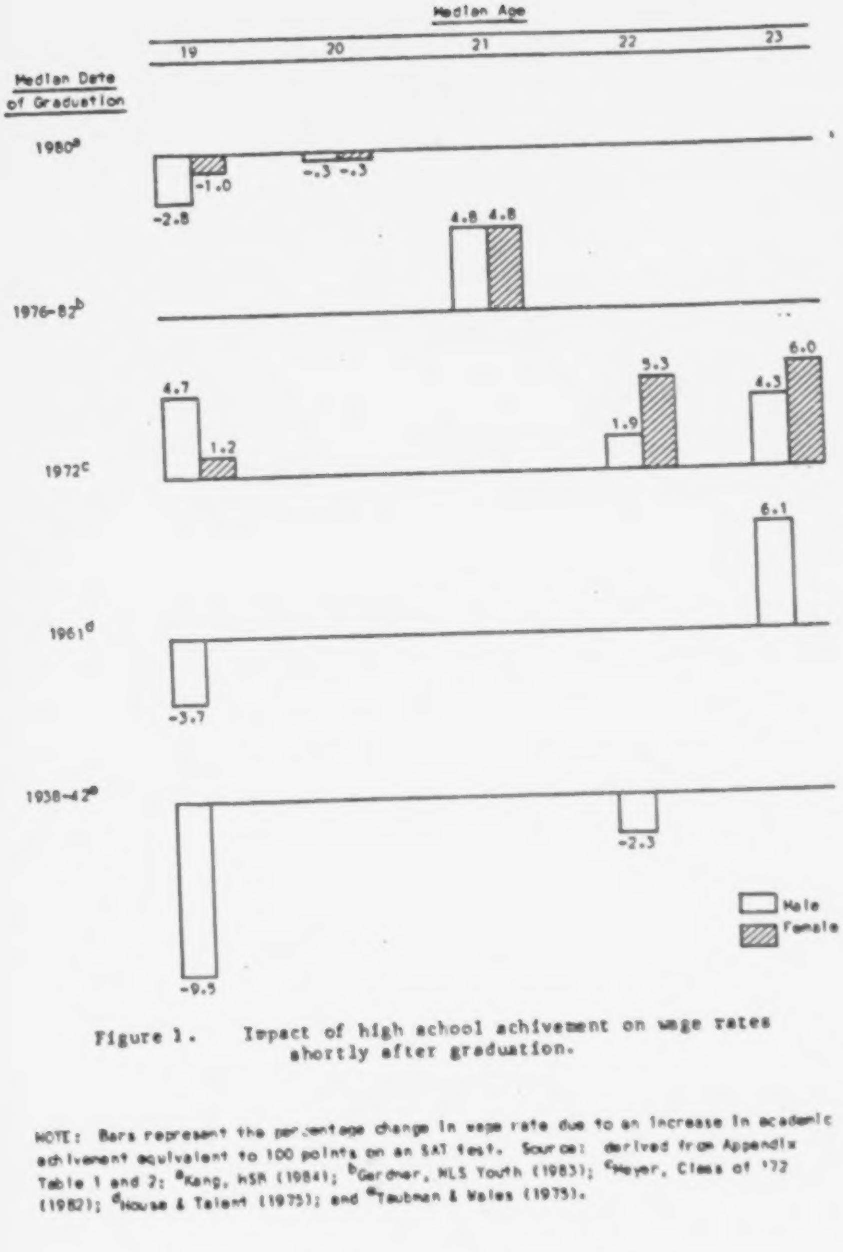


Figure 1. Impact of high school achivement on wage rates shortly after graduation.

NOTE: Bars represent the percentage change in wage rate due to an increase in academic achivement equivalent to 100 points on an SAT test. Source: derived from Appendix Table 1 and 2: [a]Kang, HSB (1984); [b]Gardner, NLS Youth (1983); [c]Meyer, Class of '72 (1982); [d]House & Talent (1975); and [e]Taubman & Wales (1975).

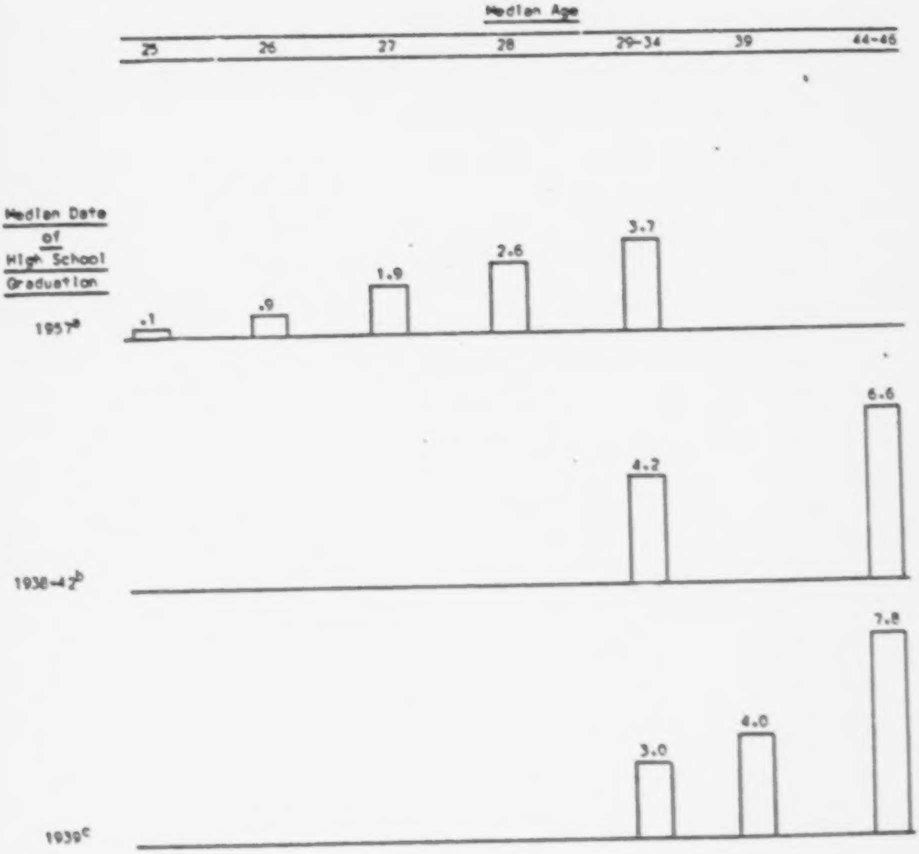


Figure 1a Impact of high school achievement on yearly earnings long after graduation.

NOTE: Bars represent the percentage increase in yearly earnings due to an increase in academic achivement equivalent to 100 points on an SAT test. Source: derived from Appendix Table 2: [a]Hauser, Daymont, & Wise (1977); [b]Taubman & Wales, NBER-TH (1975); and [c]Hause & Rogers (1975).

interviews, and reference checks. Their findings make it clear that the skills schools try to teach (as measured by achievement and aptitude test) do indeed lead to better performance on the job.

Achievement/aptitude tests can be classified into three basic types, each measuring different abilities:

- General mental achievement--General mental achievement tests (such as the Scholastic Aptitude Test (SAT), the ASVAB and components of the GATB focus on verbal, quantitative, and reasoning abilities. Thus, they test the competencies that are the prime objectives of schooling. [School attendance has been shown to improve performance on these tests (Lorge, 1945). Improvements between World War I and World War II of 3/4 ths of a standard deviation (the equivalent of 80 SAT points) in the average test scores of army draftees.]
- General perceptual ability--General perceptual ability is a combination of perceptual speed and spatial and mechanical ability. It includes the ability to perceive detail quickly, to identify patterns, to visualize objects, and to perform other tasks that rely on speed or accuracy in picking out one element from a mass of apparently undifferentiated elements. It demonstrates knowledge of mechanical and electronic principles and facts.
- Psychomotor ability--Psychomotor tests measure the ability to perceive spatial patterns and ability to physically manipulate objects quickly and accurately. An example is a dotting test, which requires the test taker to place a single dot within each of a series of very small circles.

Tests that are closely tied to the skills actually used on the job are, of course, the best predictors of an applicant's future performance on that job. For this reason, different kinds of aptitude tests are used to predict job performance for different types of jobs.

The results of numerous studies provide important evidence that basic skills (measured by general mental ability tests) significantly improve productivity on all types of jobs. I have recently completed an analysis of the effect of various kinds of cognitive and psychomotor achievement on worker productivity. The data base for this study is the US Employment

Service's Individual Observation Data File containing the results of GATB revalidation studies of the productivity of 31,399 workers in 143 different occupations. The results are summarized in Figures 2 through 6. The bars represent in 1985 dollars the effect on productivity of a one standard deviation (1 SD is equal to about 110 points on an SAT test) gain in this type of achievement while work experience and all other forms of achievement are held constant. Quite clearly academic achievement, especially math achievement, has a very large effect on worker productivity. The effect of a gain in math achievement on job performance is more than twice as great as the effect of an equivalent gain in verbal achievement.

Verbal achievements can be demonstrated on application forms and in interviews; math achievement cannot. Consequently, verbal achievement is rewarded more than math achievement. Many students avoid the more rigorous math and science courses, and, as a result, our nation faces a shortage of engineers and scientists. These results clearly imply that schools need to increase the time devoted to math and science and raise standards in these courses. Special attention needs to be given to nurturing mathematical and scientific talent.

Figure 7 compares the impact of mathematical and verbal achievement (specifically a difference of the 110 points on both the math and verbal SATs or its equivalent on other tests and GPA) on the productivity of a clerical worker, on wages of clerical workers, and on the wages of all workers[2,3]. Productivity is clearly raised much more than wage rates. Apparently it is a youth's employer, not the youth, who benefits the most when a non-college-bound student works hard in school and improves his or her academic achievements. The youth is more likely to find a job but not

## CLERICAL OCCUPATIONS

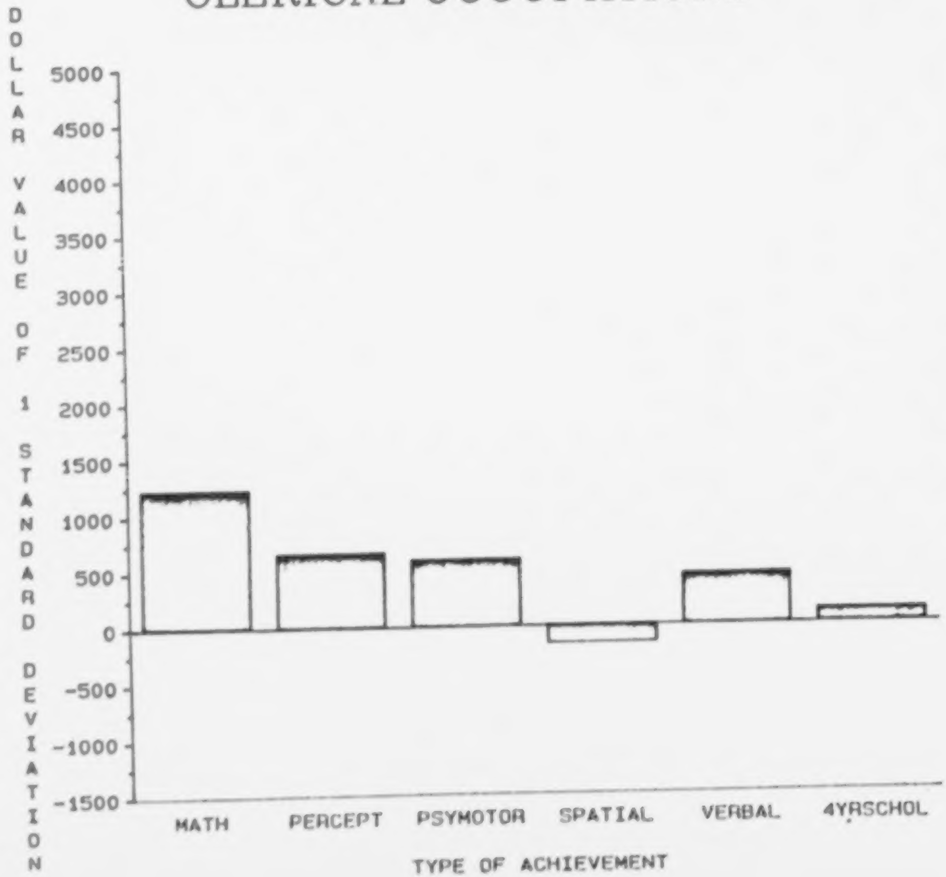


FIGURE -2

# CRAFT OCCUPATIONS

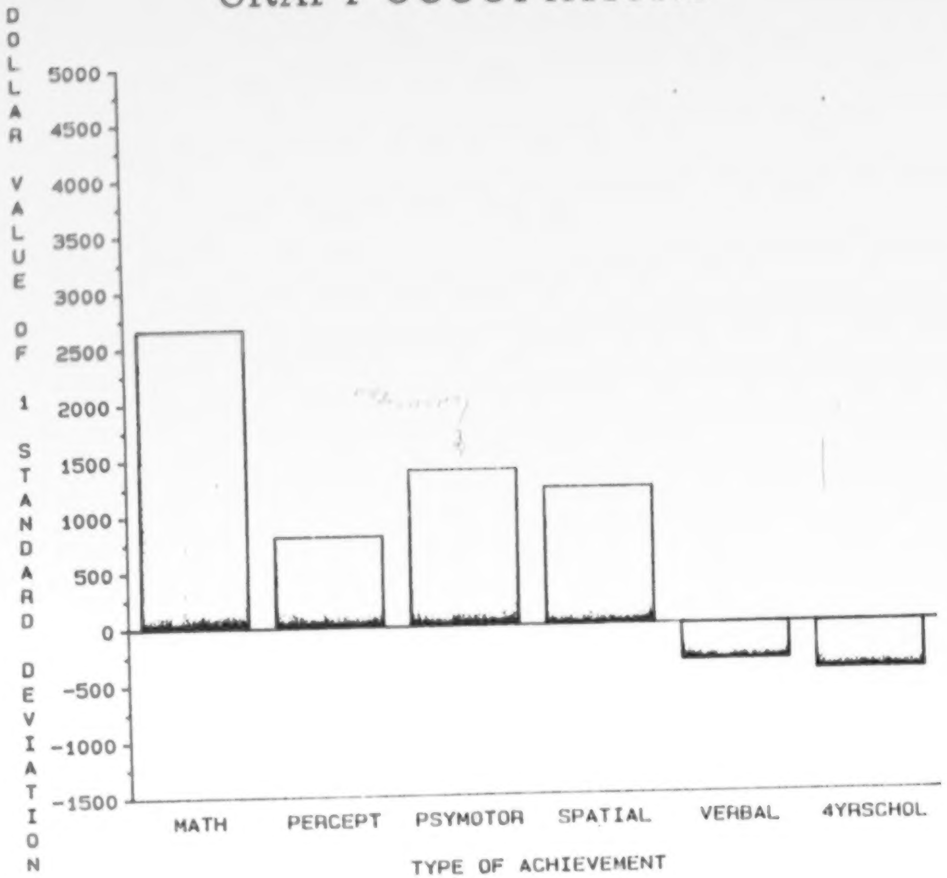
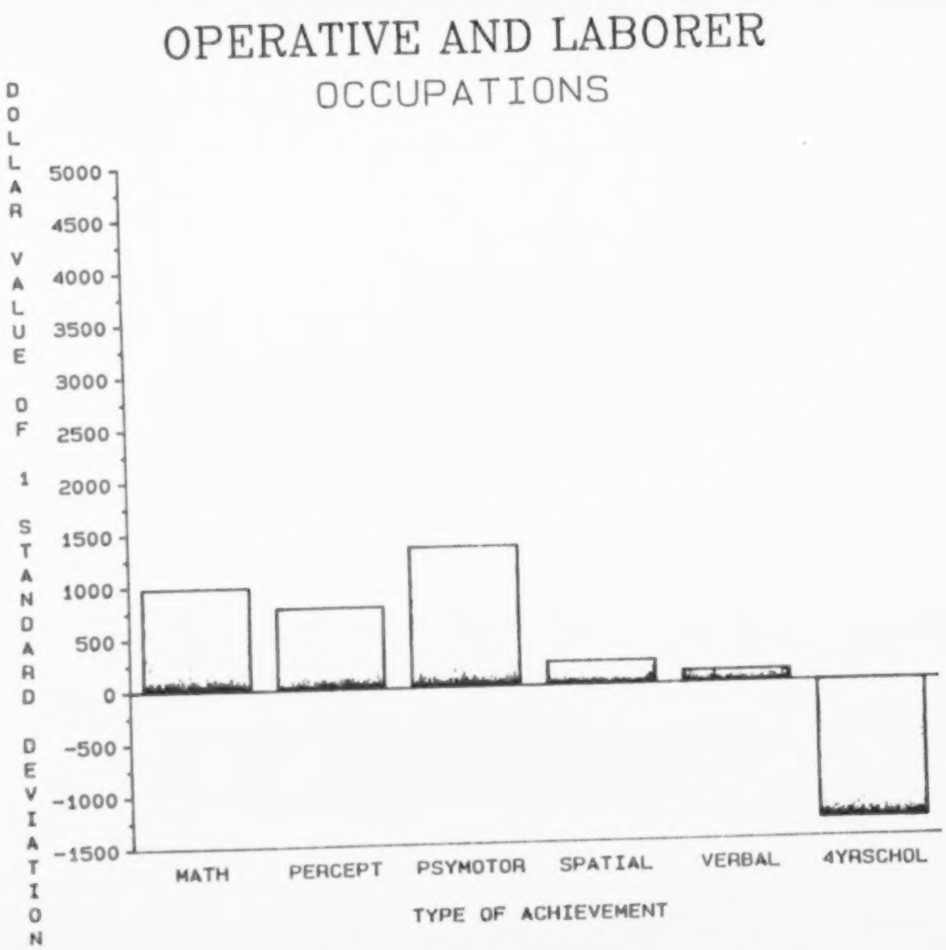


FIGURE -3


OPERATIVE AND LABORER
OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
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3500
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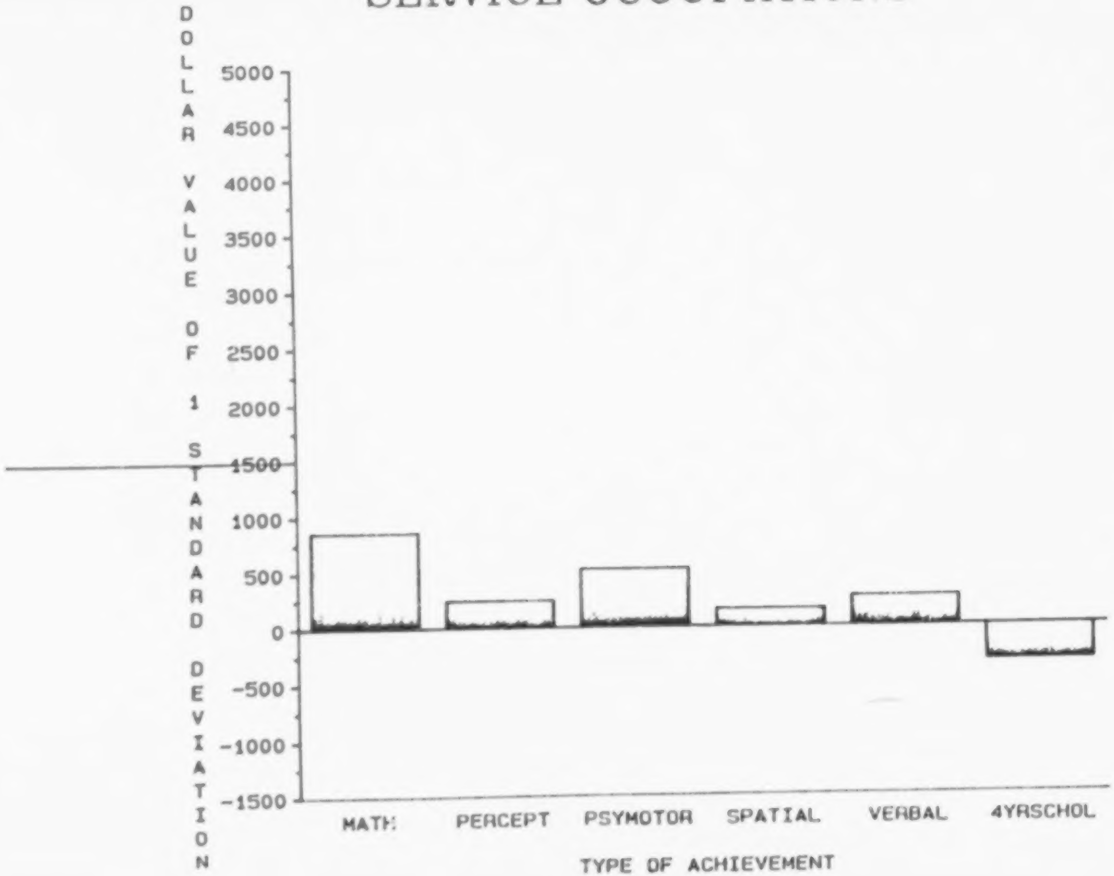
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -4



SERVICE OCCUPATIONS

FIGURE -5

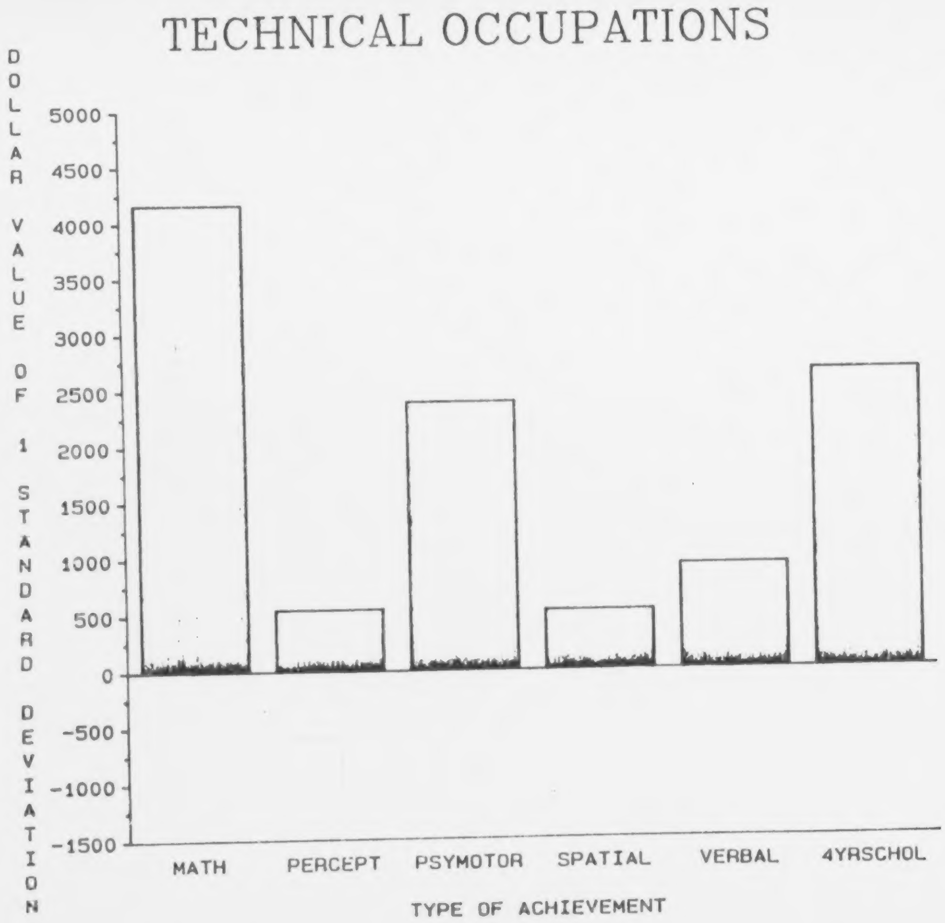

TECHNICAL OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -6

Impact of 110 Point
Improvement
on both Math and Verbal SAT

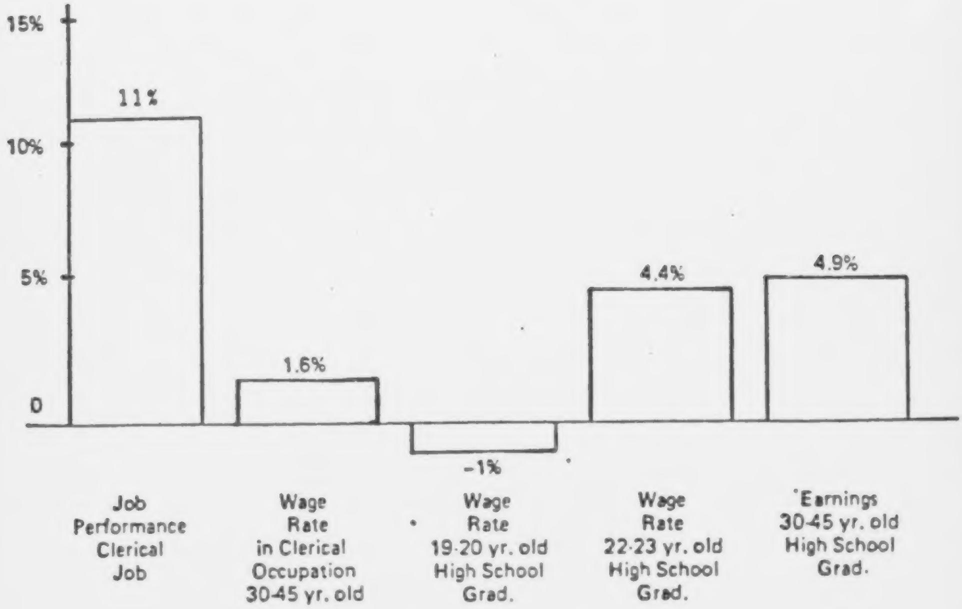


Figure 7

one with an appreciably higher wage. The next section examines reasons for the discrepancy.

## 3.3 Reasons for the Discrepancy between Wage Rates/Earnings and Productivity on the Job

Employers are presumably competing for better workers. Why doesn't competition result in much higher wages for those who achieve in high school or for those who do well on a general mental ability test? The cause appears to be the lack of objective information available to employers on applicant accomplishments, skills, and productivity.

Tests are available for measuring some skills, but court decision, e.g., Griggs vs. Duke Power Company (1971), and pressure from Equal Employment Opportunity Commissions have reduced their use. Consequently, hiring selections and starting wage rates often do not reflect the competencies and abilities students have developed in school or through on-the-job training in previous positions. Instead, hiring decisions are based on observable characteristics (such as years of schooling and field of study) that serve as signals for the competencies the employer cannot observe directly. As a result, the worker's wage reflects the average productivity of all workers with the same set of educational credentials rather than that individual's productivity.

Employers can also get the objective information they need through transcripts and through referrals from trusted sources that know about the applicant. Both these means are under used.

### Little Use of Transcripts

Employers currently make only limited use of high school transcripts in hiring. The only information about school experiences requested by most job application forms is years of schooling, whether a diploma or certificate was obtained, and area of specialization, if any. These attributes play an important part in employer decisions. Probably because of unreliable reporting, most applications do not ask the individual to report grade point averages. If a student or graduate has given written permission for a transcript to be sent to an employer, the Buckley amendment obligates the school to respond. Many high schools are not, however, responding to such requests. The experience of Nationwide Insurance, one of Columbus's most respected employers, is probably representative of what happens in most communities. Permission to obtain high school records is obtained from all young people who interview for a job. Nationwide sent over 1,200 such signed requests to high schools in 1982 and received only 93 responses. Employers reported that colleges were much more responsive to transcript requests than high schools. High schools have apparently designed their systems for responding to requests for transcripts around the needs of colleges and their college attending graduates not around the needs of employers and their graduates who are seeking a job.

There is an additional barrier to the use of high school transcripts in selecting new employees--when high schools do respond, it takes a great deal of time for them to do so. For Nationwide Insurance the response almost invariably took more than 2 weeks. Given this time lag, if employers required transcripts prior to making hiring selections, a job offer could not be made until a month or so after an application had been received. Most jobs are filled much more rapidly than that. The 1982 NCRVE employer survey of employers found that 83.5 percent of all jobs were filled in less than a month, and 65 percent were filled in less than 2 weeks. as a result, nearly

99 percent of the youth hired at Nationwide were selected before their high school transcripts were received. (Employers are equally unwilling to wait for written referrals from previous employers; at Nationwide, most of the written references requested from previous employers arrived after hiring decisions had already been made.)

### 3.4 The Large Social Benefits vs. Small Private Rewards

The evidence presented implies that the social benefits of developing basic skills are considerably greater than the private rewards. Despite their higher productivity young workers who have achieved in high school and who have done well on academic achievement tests do not receive higher wage rates immediately after high school. The student who works hard must wait many years to start really benefiting and even then the magnitude of the wage and earnings effect--a 1 to 2 percent increase in earnings per grade level equivalent on aa achievement test--is considerably smaller than the actual change in productivity that results.

Learning that is certified by a credential is rewarded handsomely. Learning not certified by a credential is either not rewarded or only modestly rewarded. Consequently there are strong incentives to stay in school; but much weaker incentives to study hard while in school. Performance in school is hard to verify because transcripts are not very informative, because job seekers do not bring their transcripts with them when they apply for a job, and because the requirement of written permission for release means the transcript often cannot arrive in time to influence the hiring decision. The consequence is under investment in the quality of one's education both in school and at jobs. The lack of significant rewards for academic achievement in the years immediately after leaving school contributes to the lack of motivation of many high school students and the resulting deficit in basic skills and higher level reasoning abilities.

The tendency to under reward effort and learning in school appears to be a peculiarly American phenomenon. Grades in school are a crucial determinant of which employer a German youth apprentices with. Top companies in Japan and Europe often hire lifetime employees directly out of secondary school. Teacher recommendations, grades in school and scores on national and provincial exams have a significant impact on who gets to work at the more prestigious firms (Leestma, et. al., 1987). Japanese parents know that their son or daughter's future economic and social rank in society critically depends on how much he or she learns in secondary school. Learning achievement is defined and measured relative to everyone else in the state or nation and not just relative to ones classmates in the school. This is why Japanese parents demand so much of their children and of their schools. Japanese adolescents work extremely hard in high school but once they have entered college, they stop working. A country club atmosphere prevails. The reason for the change in behavior is that employers apparently care only about which university the youth attends, not about the individual's academic achievement at the university. Working hard is not a national character trait, it is a response to the way Japanese society rewards academic achievement.

Now let us return to the question of why parents and elected school officials in the US were so apathetic about school quality during the 1970's. Why is it irrelevancies like school closings that draw the crowds to school board meetings and not debates over standards? Why are American parents so happy with schools that do such a poor job of teaching? I suggest that student apathy, parental apathy, school board apathy and political apathy regarding secondary education all have the same two root causes.

### 3.5 No Fault Adolescence

The first cause is a syndrome I call NO FAULT ADOLESCENCE. During the 1960's and 1970's we adopted practices and developed institutions which hid from ourselves our failure to teach, which protected our adolescents from the consequences of their failure to learn and which prevented many of those who did learn from reaping the fruits of their labor. If learning were defined by an absolute standard not by ones ranking in the school and the rewards for learning were as attractive as they are in Japan, everyone--students, teachers, parents and school boards--would behave very differently. Parents would demand that their school be the best and would be willing to tax themselves heavily to achieve that result. The status and salary of secondary school teachers would rise, the requirements for entry into the profession would increase, and standards of teacher performance would improve. If parents were not satisfied with their child's academic progress, they would send him or her to a tutor or an after school just as Japanese parents do. Adolescents would no longer be such reluctant learners.

How does our society institutionalize no fault adolescence? In part it is a result of social promotion. But more significantly it is a consequence of the way employers select young workers. When hiring young people recently out of high school, most employers, even those like IBM and Morgan Guarantee and Trust who receive hundreds of applications for every opening, do not demand to know what was learned in school. Credentials are generally awarded for time spent in school, and all other information on what was learned in school is very difficult for employers to obtain. Most employers have given up trying to find out. As a result, the quality of the job one obtains after high school is little effected by effort and accomplishment in high school.

### 3.6 The Zero-Sum Nature of Academic Competition in High School

The second root cause of the lack of real motivation to learn in middle school and secondary school is the ZERO SUM NATURE OF THE ACADEMIC GAME. Under our current system the academic side of school forces adolescents to compete against each other. Their achievement is not being measured against an absolute or an external standard. In contrast to Scout merit badges where recognition is given for achieving a fixed standard of competence in a given field, the only measures of achievement that receive attention in school are measures of one's performance relative to one's close friends such as grades and rank in class. When a student tries hard and excels in school, he/she is making things worse for his or her friends. When we set up a zero sum competition among close friends, we should not be surprised when they decide not to compete. All work groups have ways of sanctioning "rate busters." High school students call them "brain geeks", "grade grubbers" and "brown nosers". One student told me that "In most of the regular classes... if you raised your hand more than twice in a class, you were called a 'teachers pet.'"

Adolescents do not mind working hard. Watch them working at Wendys and McDonalds. Watch them working on a Scout merit badge. Watch them at football practice. In these environments they are not competing against each other. They are working together as part of a team. Their individual efforts are visible to their peers and appreciated by them. On the sports field, there is no greater sin than giving up, even when the score is hopelessly one sided. On the academic side of high school, there is no greater sin than trying hard.

The lack of external standards for judging academic achievement and the resulting zero sum nature of academic competition in the school also influences the school board and the political system. Parents can see that setting higher academic standards or hiring better teachers will not improve their child's grade point average or rank in class. The Scholastic Aptitude Test is intended to be curriculum free. Raising standards at the high school will have only minor effects on how my child does on the SAT, so why worry about standards. In any case, doing well on the SAT matters only for those who aspire to attend a college like Brown or Cornell. Most students are planning to attend a public college, many of which admit all high school graduates from the state with the requisite courses.

The parents of children not planning to go to college have an even weaker incentive to demand high standards at the local high school. They believe that what counts in the labor market is getting the diploma not learning algebra. They can see that learning more will be of only modest benefit to their child's future and that higher standards might put at risk what is really important--the diploma.

Only at higher levels of government such as the state or nation do the real costs of mediocre schools become apparent. The whole community loses because the work force is less efficient and it becomes difficult to attract new industry. Competitiveness deteriorates and the nation's standard of living declines. This is precisely the reason why state governors and state legislatures have been the energizing force of school reform. State governments, however, are far removed from the classroom and the instruments available to them for imposing reform are limited. Minimum competency tests for receiving a high school diploma are an example of an externally imposed standard of achievement. They are a step in the right direction especially when they are taken early in high school and remedial classes are offered after school and during the summer for those who fail on the first try. Some students arrive in high school so far behind, however, and the consequences of not getting a diploma are so severe, we have not been willing to set the minimum competency standard very high. As a result, minimum competency tests have only modest incentive effects for the great majority of the students.

### 3.7 The Consequences for Classrooms Interaction

The lack of standards of achievement external to the classroom also has a damaging effect on the motivation of students and teachers. As Theodore Sizer has observed, "A lot of the honors students aren't questers. They dodge the hard problems, the hard courses, to keep their averages up."(p. 53) Teachers find it difficult to escape being infected by the lassitude for the students can be cruel if they are not entertained or if they perceive the work load to be too heavy. Sizer's description of Ms. Shiffe's class, was strikingly similar to one of the classes I visited in my research:

> Even while the names of living things poured out of Shiffe's lecture, no one was taking notes. She wanted the students to know these names. They did not want to know them and were not going to learn them. Apparently no outside threat--flunking, for example--affected the students. Shiffe did her thing, the students chattered on, even in the presence of a visitor....Their common front of uninterest probably made examinations moot. Shiffe could not flunk them all, and if their performance was uniformly shoddy, she would have to pass them all. Her desperation was as obvious as the students cruelty toward her."(p157-158)

How does a teacher avoid this treatment? Sizer's description of Mr. Brody's class provides one example.

> He signaled to the students what the minima, the few questions for a test, were; all tenth and eleventh-graders could master these with absurdly little difficulty. The youngsters picked up the signal and kept their part of the bargain by being friendly and orderly. They did not push Brody, and he did not push them. The classroom was tranquil and bland. By my watch, over a third of the time was spent on matters other than history, and two-thirds of the classes ostensibly devoted to the subject were undemanding. Brody's room was quiet, and his students liked him. No wonder he had the esteem of the principal who valued orderliness and good rapport between students and staff. Brody and his class had agreement, all right, agreement that reduced the efforts of both students and teacher to an irreducible and pathetic minimum.(p. 156)

Some teachers, through brilliance or force of personality, are able to overcome the obstacles and stimulate their students to learn. But for most mortals the lassitude of the students is too demoralizing. Everyone in the system recognizes that there is a problem, but each group fixes blame on someone else. The teachers tend to blame the parents or the administrators. The students and parents tend to blame the teachers. As one student put it:

> As it stands now, there is an unending, ever increasing cyclic problem. Teacher and administrator disinterest, apathy and their lack of dedication results in students becoming even more unmotivated and docile, which in turn allows teachers to be less interested and dedicated. If students don't care, why should teachers? If teachers don't care, why should the students (Krista 1987).

Yes it is a classic chicken vs egg problem. We assign teachers the responsibility for setting high standards but we do not give them any effective means except the force of their own personality for inducing student acceptance of the academic goals of the classroom. Most students view the costs of studying hard as much greater than the benefits, so the peer group pressures the teacher to go easy. As Sizer and others have observed, all too often teachers are forced to compromise their academic demands by their inability to induce the bulk of the class to accept them as reasonable and legitimate. We would like the students to perceive themselves as a team and the teacher as a coach both working toward a common goal. Unfortunately, the teacher is often viewed as a judge whose only power is to reward one student at the expense of another.

The message of this paper is that the cause of the problem is really the system by which we define and reward academic achievement. In the current institutional environment, one cannot realistically expect to identify and attract enough gifted teachers to solve the problems described above.

## IV. HOW TO IMPROVE THE QUALITY OF EDUCATION

The rapid gains in academic achievement overseas and declining achievement here spell trouble for the American economy. The problem is so serious and so longstanding nothing short of radical reform will help. Most of the reforms now underway are desirable, but by themselves they are insufficient.

Proposed reforms of secondary education include stricter graduation requirements, more homework, increases in the amount and difficulty of course material, greater emphasis on the basics (English, math, science, social science, computer science), and improvements in the quality of teaching through higher salaries, career ladders, and competency tests for teachers. Although important, these reforms are limited in that they emphasize changes in the content and quality of what is offered by the school and require the student to work harder. They have given insufficient attention to how to motivate students to work harder. Learning is not a passive act; it requires the time and active involvement of the learner. In a classroom with 1 teacher and 18 students, there are 18 learning hours spent to every 1 hour of teaching time. Student time is therefore very important and how intensely that time is used affects learning significantly. Students should be given the opportunity to devote more time to learning. Clearly, then, attention needs to be given to how much time and energy students devote to learning.

The key to motivation is recognizing and rewarding learning. Individualized learning goals should be established which stretch the student to the maximum extent possible. Achievement of these goals would be assessed by the school and recognized at an awards ceremony. The student would receive a competency profile describing these achievements that would aid in securing employment. If the labor market knows who has learned what, it will provide the rewards.

The second way schools can generate stronger incentives for learning is to restructure schoolwide and classroom recognition of student achievement so that everyone has a chance to be recognized for their contribution, greater effort by everybody makes everybody better off, and there are significant rewards for learning and real consequences for failing to learn. As Theodore Sizer has advocated, "The better the performance, the greater [should be] the latitude given the student."(Sizer p. 67) Bloom's theory of mastery learning says that there are no differences in what people can learn, only differences in the rate at which people learn. Given enough time, everyone can achieve mastery. There is a need for massive doses of mastery learning. The primary consequence of a failure to learn should be more time devoted to learning. Extra classes could be scheduled after school and during the summer. Learning would be defined as gains in competence and gains in knowledge, not as an absolute standard of performance. The gifted and the handicapped would be stretched as would everyone else. The reward for effort and for learning would be free time. Schools would be open all day and all year. Enrichment programs designed to attract all students would be offered during the additional time. Everyone would be encouraged to participate but only the unsuccessful learners would be obligated to participate.

Some might respond to these proposals by stating a preference for intrinsic over extrinsic motivation of learning. This, however, is a false dichotomy. No where else in our society do we expect people to devote thousands of hours to a difficult task and receive only intrinsic rewards. Public recognition of achievement and the symbolic and material rewards received by achievers are important generators of intrinsic motivation. They are, in fact, one of the central ways a culture symbolically transmits and promotes its values.

It goes without saying that these reforms involve a radical restructuring of our schools. No fault adolescence and the zero sum nature of academic competition would pass from the scene. The incentives faced by everyone in the system would change and this would probably lead to a major increase in public investment in education. The proposed reforms are not simple to implement and they need not be implemented all at once. The discussion of the recommendations that follows is organized into six sections:

4.1 Improving Measures of Academic Achievement.

4.2 Getting the Peer Group to Encourage Learning.

4.3 Creating New Learning Opportunities in School.

4.4 Generating Additional Recognition and Reward for Learning.

4.5 Creating New Learning Opportunities Outside of School.

4.6 Helping Students Obtain Good Jobs

## 4.1 Improving Measures of Academic Achievement

### Certifying Competencies

Schools should provide graduates with certificates or diplomas that certify the students' knowledge and competencies, not just their attendance. Competency should be defined by an absolute standard in the way Scout merit badges are.

### Instituting Statewide Examinations

States should adopt statewide tests of competency and knowledge that are specific to the curriculum being taught, such as New York State's Regents Examinations. If a state does not have such exams, a school district (or the members of _each_ department of a school) could establish its own exams. Such examinations would offer several benefits.

- Better inform students and parents about how well the student is doing and thus help parents work with teachers to improve their children's performance.
- Make the relationship between teachers and students more cooperative, with the teacher and students working jointly to prepare the students for the exam.
- Strengthen student incentives to learn because they would now be able to signal to their parents and employers their competence in specific curriculum areas.
- Create a database that school boards and parents could use to evaluate the quality of education being provided by their local school.
- Enable employers to use scores on these examinations to help improve their selection of new employees. If the uncertainties involved in hiring are reduced, expanding employment will become more profitable, total employment will increase, and recent high school graduates will be better able to compete with more experienced workers.

### Reform the SAT and ACT Tests

While national or statewide tests are necessary, the Scholastic Aptitude Test (SAT) is not the kind of test that is helpful. The SAT suffers from two very serious limitations: the limited range of the achievements that are evaluated and its multiple choice format. The test was designed to be curriculum free. To the extent that it evaluates the students' understanding of material taught in schools, the material it covers is almost entirely the elementary and junior high curriculum, not the high school curriculum. As a result, it fails to generate incentives to take the more demanding courses or to study hard. The multiple choice format is also a severe limitation. National and provincial exams in Europe are predominantly essay examinations. The absence of essays on the SAT and ACT tests contribute to the poor writing skills of American students. The test advertises itself as an ability test but is in fact an achievement test measuring a very limited range of achievements.

Christopher Jencks and James Crouse made many of the same criticisms of the SAT in a 1982 article in the Public Interest. They recommended that the SAT evaluate a much broader range of achievements. I support their position. A portion of the test should involve writing an essay. Knowledge and understanding of literature, history and science and higher order thinking skills should all be assessed.

Colleges should require that students take at least two subject specific exams. The advanced placement exams are examples of the kind of exams we need. These exams should not be limited to the multiple choice format. Foreign language exams, for example, should test conversational skills as well as reading and writing. Students taking science courses should be expected to conduct experiments and demonstrate the use of lab equipment.

### Promote the Development of New Assessment Mechanisms

Linking assessment to the curriculum requires a greater diversity of assessment mechanisms. States should not be prevented from having their own unique curriculum simply because the available examinations and assessment tools are so limited. However, the need for multiple versions and for fairness to minorities make test development very expensive. The federal government should underwrite state consortia and other organizations that seek to develop alternatives to currently available tests and assessment mechanisms. Emphasis needs to be placed on developing methods of assessing higher order thinking skills and competencies that cannot be evaluated using a multiple choice format.

While testing organizations would publish and oversee grading of the exams, the subjects covered by the exam and the skills tested would be selected by a committee of teachers and specialists in the field. Examples of groups that might sponsor and direct test development are the National Council of Teachers of Mathematics, associations of private colleges, state boards of education, and textbook publishers. There should be a conscious effort to maximize philosophical and educational diversity in the selection of consortia for funding. The push for better measures of student learning should not be limited to the academic arena. A similar effort should be made in the vocational area.

## 4.2 Getting the Peer Group to Encourage Learning

### Cooperative Learning

One effective way of inducing peers to value learning and support effort in school is to reward the group for the individual learning of its members. This is the approach taken in cooperative learning. Students are grouped into evenly matched teams of 4 or 5 members that are heterogeneous in ability. After the teacher presents new material, the team works together on work sheets to prepare each other for periodic quizzes. The team's score is an average of the scores of team members, and high team scores are recognized in a class newsletter or through group certificates of achievement.[4]

Slavin has recently reviewed 27 field experiments that compared cooperative learning strategies combining group study and group reward for individual learning with the standard individual-reward-for-individual-learning system (Slavin 1985).[5] In 24 of these studies, cooperative learning had a statistically significant positive effect on learning. Where effect sizes were available, they were approximately 30 percent of a standard deviation on the post test.

A number of studies have been conducted in which the various components of the cooperative learning model described previously have been tested on their own or in 2 x 2 factorial experimental designs. The four studies that examined the effects of group study without group rewards for individual learning found that such a strategy had no positive effects. Group study methods that offered group rewards based on the quality of a group product were also not found to increase learning. These results suggest that the two key ingredients for successful cooperative learning are as follows:

- A cooperative incentive structure--awards based on group performance--seems to be essential for students working in groups to learn better.
- A system of individual accountability in which everyone's maximum effort must be essential to the group's success and the effort and performance of each group member must be clearly visible to his or her group mates.

These results provide important evidence of the importance of peer norms. What seems to happen in cooperative learning is that the team develops an identity of its own, and group norms arise that are different from the norms that hold sway in the student's other classes. The group's identity arises from the extensive personal interaction among group members in the context of working toward a shared goal. Since the group is small and the interaction intense, the effort and success of each team member is known to other teammates. Such knowledge allows the group to reward each team member for his or her contribution to the team goal, and this is what seems to happen.

### 4.3 Creating New Opportunities for Learning in School

#### Turn Schools into All Day Learning Centers

Schools should remain open after the end of the regular school day. A full range of remedial and enrichment programs and extra curricular activities and interscholastic sports should be offered. The library should remain open during this period and the auditorium could be used for showing educational films and video tapes. Extra help would be available for students having difficulty with the core curriculum. Volunteers to provide tutoring and to offer special interest courses could be recruited from the community. Employers and unions could be approached about sending a member of their staff to supervise an extra curricular activity or provide tutoring. Private teachers of music, art and other subjects could also use school facilities during these hours. The benefit of this reform is that (1) the regular school day would be freed up for more intensive study of the core curriculum, (2) slower students would be given the extra instruction they need, and (3) the phenomenon of the latch key child would be significantly reduced or eliminated.

#### Keep the Schools Open During the Summer

A variety of remedial, enrichment and special interest short courses should be offered during the summer. While many of the teachers would be regular school staff, an education degree and state certification would not be required. Local businesses and unions should be encouraged to offer their employees as teachers. Private teachers of music, art, athletics and academic subjects could also offer their own courses at the school. Where appropriate, academic credit would be given for the summer school courses. The school district would provide transportation.[6]

## 4.4 Generating Additional Recognition and Rewards for Learning

### A Massive Dose of Mastery Learning

Students who are not learning at the desired rate should be expected to commit additional time to the task during the summer. At the beginning of the school year school personnel would meet with the student and his or her parents to set goals. Students who are not performing at grade level in core subjects and who do not make normal progress during the school year should be required to attend summer school.[1] Assessments of progress should be made at appropriate points during the school year to inform students of their progress and to enable those who have been taking remedial courses to demonstrate they are now progressing satisfactorily.[7] Course grades and teacher evaluations would be a central part of the assessment process, but there should be an external yardstick as well. The external yardstick might be a competency check list, a mastery test keyed to the textbook, or an exam specified by the state, the school or collectively by the teachers in the that grade level or department. The assessment tools would be established at the beginning of the school year. The reason for the external yardstick is that it helps insure that students perceive the standard to be absolute rather than relative to others in the class and it helps create a communality of interest between teacher and student. Teachers need to be perceived as helping the student achieve the student's goals not as judges meting out punishment. Final decisions regarding who would be required to attend summer school could be made by committees of teachers possibly with some administrative representation. Since students will want to avoid being required to take remedial courses, this will be a powerful incentive for them to devote themselves to their studies.

## Honoring Academic Achievement

Schools should strengthen their awards and honors system for academic and nonacademic accomplishments. The medals, trophies, and school letters awarded in interscholastic athletics are a powerful motivator of achievement on the playing field. Academic pursuits need a similar system of reinforcement. Public school systems in Tulsa and a number of other cities have started awarding school letters for academic achievements. Awards and honors systems should be designed so that almost every student can receive at least one award or honor before graduation if he or she makes the effort. Outstanding academic performance (e.g., high grades or high test scores) would not have to be the only way of defining excellence. Awards could be given for significant improvements in academic performance since the previous year or since the beginning of the school year, for public service in or out of school, for leadership and participation in extracurricular activities, for participation in student government, for perfect attendance records, and for student of the week (criteria would vary weekly). The standard for making an award should be criterion referenced: if greater numbers achieve the standard of excellence, more awards should be given.

Periodically, the parents of the most recent award winners and sponsoring teachers should be invited to an evening assembly at which time the principal would award the students the certificate or plaque recognizing their accomplishments. A prominent place in the school should be reserved for bulletin boards where pictures of the most recent winners and reasons for their receiving recognition could be posted. Another form of recognition could be displays of student work: art, science, social studies, vocational education projects, and so forth. While the primary purpose of this system would be to improve the school's educational climate, a secondary effect would be the creation of a tool to help the student obtain a good job. The potential of these awards as an aid to improving employability should be made clear to students and parents.

## Allow Employers to Use Scores on Achievement Tests in Selecting New Hires

There is now a great deal of evidence that scores on tests like the SAT and the ACT are excellent predictors of job performance in a great variety of jobs and do not discriminate against minorities or women (Schmidt and Hunter and Northrop 1984, Hunter and Hunter 1984). Despite this, EEOC regulations and case law effectively require that a very expensive validation study be conducted before a firm can use any test to help select employees. The result has been to greatly diminish the use of tests for employee selection and to substantially reduce the rewards for learning. There is a strong public interest in strengthening the incentives to learn so government regulations should certainly not be a barrier to the use of tests and should encourage the use of broad spectrum achievement tests rather than "aptitude" tests. One approach would be to eliminate all government regulations in this area. An alternative would be to give broad spectrum achievement tests blanket clearance for broad categories of jobs and allow the use of tests measuring other types of aptitudes on a case by case basis.

## 4.5 Creating New Learning Opportunities Outside of School

### Greatly Expand Educational Programming on T.V.

American youngsters spend an average of 25 hours a week watching television. This is more time than they spend engaged in school sponsored learning activities and more time than the students in any other nation. Austrian students watch only 32 percent as much TV and Swiss students watch 40 percent as much. Canadian students watch 56 percent of the U.S. amount. (OECD, Table 18.1, 1986) Higher standards, longer school days and the expansion of nursery schools will reduce the U.S. figure (college students, for example, watch less TV than high school students) but time spent in front of a TV set is probably going to remain high.

This can, however, be viewed as an opportunity, for television has a vast potential as a positive educational force. Programs like Sesame Street, 3-2-1 Contact, NOVA and National Geographic are examples of what is possible. But these excellent programs account for a very small share of broadcast time. Transformers, GI Joe, Sheera, Bugs Bunny and MTV are cheaper to produce and are more effective advertising vehicles so they dominate the airwaves during the afternoon. Only a society that places little value on the transmission of its cultural heritage to the next generation would allow such a powerful medium for instructing the young to be guided solely by what sells toys, cereals and popular records.

If TV is to begin to achieve its educational potential we need: (1) more and above all better funded educational channels, (2) increased federal funding of the production of educational programs and (3) a requirement that every channel devote at least X percent of its air time (including specified percentages of late afternoon and prime time) to educational fare.[8]

One of the concerns that is sometimes expressed about federal funding of educational TV programs is it might give a single decision maker too much power. This danger can be avoided by maintaining the current dispersal of funding authority among many different governmental agencies. NSF, NIMH, NASA, National Endowment for the Humanities, and the Department of Education have all funded programs in the past and additional agencies should be recruited. Another safeguard that could be instituted would be to require that contracts be signed with production companies or educational institutions and not directly with networks or commercial stations. This would mean that the federal authority to fund educational programs would give it no leverage over the news departments of commercial stations and networks.

### 4.6 Helping Students Obtain Good Jobs

Schools can help their graduates avoid unemployment and get better jobs by improving the quality and facilitating the flow of employment-related information to students and their potential employers. Improving the information available to all parties in the job search/hiring system will have the following consequences:

- A greater share of school leavers will find employment.
- The jobs they obtain will pay better and offer more training and job security.
- The better jobs will be distributed more in accordance with the objective merit of the candidate.
- Students will commit a greater amount of time and effort to their studies as they perceive the greater payoffs for doing so.

Facilitating information flows also will contribute to achieving the educational goals that are the school's primary responsibility. A number of policies that have been advocated for educational reasons would also improve the credentials new high school graduates bring to the labor market:

- Helping students acquire needed basic and vocational skills along with good work habits
- Honoring academic achievement with a system of awards and schoolwide recognition for academic and nonacademic accomplishments similar to the system that recognizes athletic achievement
- Certifying competencies with certificates and diplomas that recognize competencies achieved rather than just time served
- Instituting statewide examinations
- Implementing a grading system that recognizes effort and improvement as well as accumulated knowledge
- Offering courses in job search skills to help students successfully navigate in the world of work
- Inviting employers to serve as advisors to your students

Policies whose primary objective is to ease the school-to-work transition or to facilitate information flows can also motivate students to apply themselves to their studies. Many students who would otherwise not be motivated to study, for example, can be motivated to apply themselves if they are shown the connection between today's schoolwork and tomorrow's jobs. Policies that facilitate information flow make the connection between effort in school and later labor market success more visible. Such policies include the following:

- Acting as a source of informal contact
- Developing long-term relationships between school staff and local employers who hire their school's graduates
- Formulating an effective and equitable policy for releasing information about students to potential employers
- Developing in cooperation with local employers a job search portfolio transcript that reports student accomplishments in a standardized format, and encouraging students to use it when seeking a job

### Offering Courses in Job Search Skills

Schools have an important role to play in preparing youth to navigate in the labor market. Career guidance and career counseling have been viewed as important school functions for many decades. Realizing that a career choice cannot be implemented unless a job can be obtained in the chosen field, many schools are teaching youths how to search for work (Wegmann 1979). They need to get practice in writing a resume, in interviewing and in employing the more effective informal modes of job search.

### Acting as a Source of Informal Contacts

School personnel can be a reference and a source of job contacts for their students. Some students may feel that they do not have and cannot develop good employment contacts. School personnel can help out by building and maintaining trusting relationships with local employers and then helping to match employer and student needs. Students from disadvantaged backgrounds have special need for this kind of help, because their relatives and neighbors typically lack the work world contacts of middle-class families.

Many schools provide job placement and referral services for their students and graduates. Three and a half million people found their current job through a referral by their school or a teacher (Rosenfeld 1975). This function of schools is a lot more important than is generally thought.

Whenever possible, there should be a one-on-one relationship between a specific teacher or administrator and an employer. A study by McKinney et al. (1982) found that when schools formalize this relationship by creating a placement office, the number of jobs found for students tends to decrease. The best example of an informal contact system is the one that exists for many vocational students. Vocational teachers often know local employers in related fields; they also know their students well enough to recommend them. This kind of informal system could be extended to include all students not planning to attend college.

### Guiding students in assessing jobs and employers.

Students need help in assessing jobs, and schools can provide them with the information necessary to make these assessments. Career guidance tends to focus on the individual's choice of occupation. Attention also needs to be given to selecting an employer and matching employer/employee needs. Young people who find good, high-wage jobs with promotion opportunities will end up changing jobs less often. Students need to learn how to assess such dimensions of a firm as training opportunities, promotion opportunities, job security provisions, maternity leave rules, vacation policies, policies regarding tardiness, friendliness of co-workers, effectiveness of supervision, medical insurance, educational leave, and tuition reimbursement.

### Inviting Employers Into the School

Another way schools can help students develop informal contacts is to invite employers into the school. A retired employer, for example, can make an excellent volunteer advisor. This individual can come to the school and get to know a group of students. Students benefit from hearing firsthand stories about the business world and hearing what employers expect from employees. Students would also benefit by knowing someone in the field--by having a contact. The retired employer can help students by referring them to other employers.

### Releasing Student Records

The school can help students provide employers with information by developing an equitable and efficient policy for releasing student records.

While developing this policy, school officials should keep in mind the dual goals of protecting the student's right to privacy and trying to help the student find a good, suitable job. The student and his or her parents should receive certified copies of the transcript and other records that might be released.

Schools can develop a form that would explain to parents and students their rights, as well as the pros and cons of disclosing information. The Buckley Amendment requires that the form specify the purpose of disclosure, which records are to be released, and who is to receive the records. The law allows the student to specify a "class of parties." The class specified could be "all potential employers contacted by the student," which would cut down on the paper work needed. Once the student has filed a request, the school is required by law to comply. Schools can best serve students by handling all inquiries expeditiously and without charge.

### Developing a Job Search Portfolio

Schools should consider providing students with a job search portfolio or competency profile that records all their accomplishments in one place. Students attempting to market themselves to employers will have greater success if all their school achievements are summarized in one compact, standardized document. Compactness and standardization make it easier for employers to use information in their hiring decisions and this facilitates information flow.

The coverage and format of the document are probably best worked out cooperatively by a committee that includes school administrators, employers and other interested parties. Developing and using such a document might be a part of a campaign to enlist commitments from major local employers to hire the school's graduates. Developing the information system cooperatively is a good way to ensure that the finished form will be beneficial to schools, employers, and students.

Students have many talents and skills that can be highlighted in such a document. The job search portfolio should emphasize accomplishments and performance indicators that are most useful in identifying a good match between a job and a youth. Student and parents should receive copies of it, and students should be encouraged to bring copies with them when they apply for jobs. Employers should be encouraged to ask to see the portfolio and keep a copy when a job application is filed.

## Summary

Students leaving school today to look for jobs face serious problems. When an employer is considering a group of applicants, a recent school leaver is at a disadvantage. The employer generally knows little about new entrants to the labor market and will probably pass over them in favor of more experienced candidates. To get a good job, the young person must be noticed; he or she must stand out in a crowd of applicants. Schools can help students overcome such problems by taking these steps:

- Help students see the value of acquiring needed basic skills
    - --Emphasize the connections between school performance and job success.
    - --Improve communication with employers to maximize performance rewards.
- Teach students to make themselves worth marketing and then to market themselves.
    - --Motivate students through a strong school reward structure.
    - --Teach students the value of personal contacts.
    - --Encourage school personnel to act as informal contacts.
- Help employers get information about students.
    - --Teach students to evaluate employers and job offers accurately.
    - --Teach students the value of giving employers information.
    - --Encourage students to create and use a job search portfolio.

--Make it as easy as possible for employers to get student transcripts.

Employers can help by taking the following steps:

- Ask school personnel to recommend graduating students for jobs at their firms.
- Give greater emphasis to school grades and performance on achievement tests (such as the New York State Regents Exams) when making hiring selections, and publicize this emphasis to the community.
- Work cooperatively with schools to ensure that transcripts are sent rapidly when student permission has been obtained and to establish a more complete standardized reporting framework like a job search portfolio.
- Volunteer to speak in schools about the competencies required for getting a job and for being successful at work.
- Volunteer to become a mentor for small groups of students.

## Footnotes

1. For example, numerous studies show that lower tuition at public institutions and more financial aid raise the probability of high school graduates going to college, and that this effect is larger for young people from low-income families (see Jackson and Weathersby 1975 for a review of this literature). College enrollments and student choice of an undergraduate major or a postgraduate program respond to the income advantage and the perceived availability of jobs in the field (Freeman 1971, 1976a, 1976b; Bishop 1977). Labor market conditions also affect dropping out of high school (Bowen and Finegan 1969; Lerman 1972; Gustman and Steinmeier 1981). The minimum wage (Ehrenberg and Marcus 1982) and the quality of the schooling offered (Gustman and Pidot 1973) have also been shown to affect drop out rates.

2. An increase of 110 SAT is chosen because it represents one standard deviation increase. Since SAT tests are scaled to have a standard deviation of 110, simultaneous one standard deviation improvements on both verbal and math tests would be like raising both verbal and math SAT scores from 400 to 510. If one begins at the 50th percentile of a normally distributed population, a one standard deviation improvement in performance raises one to the 84th percentile. For 12th graders such an improvement is approximately equal to 3 grade equivalents. By reporting the percentage changes in labor market outcomes that result from a one standard deviation change in GPA or performance on a test, we make the results of studies done on very different cohorts of workers comparable over time and understandable to the layman.

3. Studies that measure output for different workers in the same job at the same firm, using physical output as a criterion, have found that the standard deviation of output is approximately 20 percent of the mean when pay is not a function of measurable outputs and 15 percent of the mean when pay is by commission or a piece rate (Schmidt and Hunter 1983). Since there are fixed costs to employing an individual (facilities, equipment, light, heat and overhead functions such as hiring and payrolling), the coefficient of variation of marginal products of individuals will be considerably greater (Klein, Spady, and Weiss 1983). On the assumption that the coefficient of variation of marginal productivity for clerical jobs is 30 percent, the .54 validity of general mental ability implies that academic achievement differential equivalent to 110 points on the SAT test between two individuals is associated with a productivity differential in the job of 16 percent (.54 x 30%). The bottom value of the range reported in the text assumes the coefficient of variation of productivity is 20 percent.

4. In many cooperative learning systems, the individual's contribution to the team score is a gain in score relative to an individualized learning expectation.

5. The review was limited to studies in which treatments lasted at least 2 weeks in a regular school setting. The experimental and control groups were exposed to the same curriculum, and students were not allowed to

help each other on final tests.

6. To facilitate scheduling and to maximize time on task, courses would run for an entire half day or all day. During the lunch break the buses could transport half day students to and from the school. Students would not have to give up their whole summer, for the short courses would be organized in 3 or 4 week units.

7. The exams would cover the material covered during the year. Ideally an individual achievement standard would be assigned to each student at the beginning of the year. This way students with major deficiencies in their background would not be facing an impossible goal. One way this could be done would be to require summer school only for those who simultaneously fall below some absolute standard and who fail to make at least a one year gain in terms of grade level equivalents from June to June.

8. In order for a program to be considered educational it would have to be under the creative control of a subject matter expert (e.g., Jacob Bronowski, Carl Sagan), an educational institution or a committee of educators and subject matter experts. Each network and independent station would have its own educational advisory committee but the decision making power would remain with the network/station. To minimize the politics, appointments to these committees would be for a fixed non-renewable term and the power to appoint would be dispersed among a variety of elected officials and educational organizations. For example, in states which elect a state educational commissioner, the official might make one appointment to the advisory committees for each station located in the state. The board of education for the largest city included in a station's viewing area might also be asked to appoint one member. The teachers association representing most of the teachers in the viewing area might be allowed to elect still another.

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Representative **Scheuer**. Thank you very much. Your testimony was thoughtful and provocative. I always thought that one of the greatest wastes of American society is leaving our schools empty 2 or 3 months a year. There is enormous capital investment in the playgrounds, the craft shops, the academic rooms, the library, et cetera. To leave that enormous capital plant idle for 2 or 3 months a year is just mind-blowing in its stupidity and its intrinsic waste when there are kids out there who can benefit enormously from summertime programs of all kinds. And I've always thought that one of the simplest, least expensive and most cost-effective things we could do to improve our educational system would be to keep those schools open and going with activities of all kinds proliferating 365 days a year.

Maybe I would exclude Christmas and the Fourth of July and Rosh Hashanah and Yom Kippur—I'm not sure. But the other 360 days, the schools should be teeming with activity. I've always thought it was incredible that the charge for janitorial services often prevents schools from being kept open. Yet, there are neighborhood and civic and community groups who would be happy to come in and provide leadership, classes, and informal activities. However, for the want of the custodial expense of keeping that school open evenings, weekends, and holidays, all of that initiative, all of that latent volunteerism that's waiting to be tapped is shut off and foreclosed. I think a society that lets this happen hasn't got its head screwed on straight as far as education is concerned.

Well, I'm just going to ask several questions from the notes that I jotted down here.

Parent involvement—I know in New York City, especially among low-income minority parents, it's very difficult to get parents involved. The teachers and the principals try desperately to get parents to come into school. However, even when a kid is in trouble and has behavior problems or has reading problems or performance problems of any kind, they just can't get the parents to come to school.

Now I don't know if there's any very simplistic answer. Have any of you, from your experience, observed techniques for achieving parent involvement?

Have we learned anything new and different about how to involve parents?

Mr. **Campbell**. Mr. Chairman, let me just comment briefly on an experience that we have in our company. ARA Services is the second largest provider of early childhood education in the country. We have 500 schools across the country.

We are very anxious that children who come to us stay with us. In order to accomplish that, we put a tremendous emphasis on the obligation of the center director and the teachers to keep contact with the parents. That includes a whole set of things that they must do in relation to sending notes, calling the parents, visiting the parents' home, and so forth.

And it is interesting that we do that for business reasons. We do that because that is the way we are able to provide this service and have it profitable. That puts tremendous emphasis on satisfying the parents who are the ones who make the decision.

I am not sure how one translates this to the public school system, but I would suggest that you're not going to get parent involvement if you depend entirely on voluntary response from the parents. There has to be a reaching-out from the school to the parents convincing them of the school's interest in their children and I would guess that is even more true for children from one-parent families, children who are at-risk educationally. There has to be a demonstration by the school of their openness. That's not just a problem of saying that you have to do it. There are some experiments across the country where the schools remain open in the evenings so the parents can come by. There are activities held to which parents are sought out to come.

My only conclusion from this is: somehow you have to develop a system where there is an incentive for the school to take the leadership in involving the parents.

Representative SCHEUER. You said we have to devise a system of getting parents in on a basis that isn't voluntary. I think that's what you said.

Mr. CAMPBELL. Well, certainly in the end it has to be voluntary, but there has to be a way in which it is illustrated to the parents that they are welcome and that the school sees them, the parents, as partners in the education of their children.

Mr. BUTLER. Mr. Chairman, the one example I'd like to cite that seems to be very successful at that is the Ysleta School District in El Paso, TX, which is the school district of El Paso which deals primarily with the barrio and the disadvantaged Hispanics. In their preschool program which was established under the new Texas Education Law—really last year was the first full year—they have had great success in getting parent involvement with the schools. They have something like an 80 percent turnout of parents at their parent activities at the school.

I can tell you some facts about it and then I can tell you what I infer about human behavior from it, but it's only a personal inference, not a peice of scientific knowledge.

The program is entirely voluntary. The program has to be voluntary. They can't force people to send 3-year-olds to school. So in getting the children into school, they go out and talk to the parents and persuade the parents to send the children to school.

Representative SCHEUER. Excuse me. Let me just question that premise of yours. We do have a compulsory education system in this country up to a certain age and normally I guess first grade is the first grade that is compulsory. A parent cannot keep a child home from first grade.

Why couldn't we extend that 5- or 6-year level down to 3 years and make it part of the school system?

Mr. BUTLER. We could. I'm not even sure there's anything wrong with that.

Representative SCHEUER. Then it would be compulsory.

Mr. BUTLER. In El Paso, it is not. By their laws at this time, there is not compulsory preschool attendance. But the result is that they do a lot of work with these parents before they ever get the child into the shcool in order to get the child enrolled in school.

My impression from looking at both the New Future School in Albuquerque and the Ysleta School in El Paso is that children are a lot more lovable when they're 1 or 2 or 3 years old than they are later—by the time they are 8 or 9 they're beginning to be a problem at home as well as in school. And parents are happy to send them to school and get rid of them and they don't want anything to do with them.

But when we get into early intervention in these families and get these children when they are still so young that they are not real troublemakers, they're lovable—then it's a lot easier to get the parents in the habit of staying involved with the child and the school activity as well as at home. I think that's another argument for early involvement.

Representative SCHEUER. Well, I started out my congressional career in 1965 on the Education and Labor Committee writing the Elementary and Secondary Education Act, so you are preaching to the choir when you talk about early education.

I always have thought that it's one of the greatest tragedies of American education that here Congress in defiance of this cliche "that local people know best," we started something that I enjoyed 62 or 63 years ago. I went to a headstart program. We didn't happen to call it headstart. We called it prekindergarten or nursery school.

Middle-class parents have been sending their kids to a headstart program for 100 years. Why should anybody question now whether it's worthwhile?

But we did question it and we set up this experimental program called Headstart and we extended it down to 3- or 4-year-old kids. It was a fantastic success. It was the jewel in the crown of the poverty program. No question about it.

Then in order to preserve those benefits, we started a program called the Follow-Through program so that kids continued to get some enrichment when they went to school. And the poverty program came and went. And has Headstart been replicated by those local people who supposedly know best?

Painfully, I have to say no. And I'd just like to strike a blow against that principle of local people knowing best—and for the integrity of Congress. If all those local people knew best, there would be headstart programs in every school system in this country extending down to 3-years-olds. But they don't know best. We had to start it. It was our initiative. Do I sound embattled?

And the pitiful part of it is that frequently we treat our failures the same way we treat our successes or we treat our successes the same way we treat our failures.

Headstart, instead of really stimulating this radical revolution that—who talked about the radical revolution?

Mr. HUNT. I did.

Representative SCHEUER. Right. Instead of stimulating radical revolution where every school board member in the country would say, "Hey, we've got something there that we ought to provide for every kid." Why weren't school boards around the country saying that?

I don't understand to this day why they didn't recognize the terrific success of that program and replicate it all over the place.

Can anybody explain to me why that program came and went and left virtually without a trace?

Mr. HUNT. Mr. Chairman, I can't explain that, but let me say to you that when I was Governor of North Carolina we were the first State—I was the first Governor to ever propose and push for and get funds for poor children for quality child day care. It had been totally a title XX matter up to that time.

Representative SCHEUER. Right.

Mr. HUNT. Now we only got some 10,000 or 15,000 kids in it because we didn't have as much money as we would have liked to have had. We keep working on the schools and the universities and all these other things.

That's one place where the Federal Government has helped us see where some of the new initiatives must be and how important they are. But we in a sense were responding to what you had done.

What we ought to do is to have every child in America in quality child day care or equally good intervention kinds of programs.

Representative SCHEUER. I couldn't agree with you more and I think, frankly, that it shouldn't just be for disadvantaged kids. I think it should be for all kids so that where you have schools which are economically and socially heterogeneous, kids who have never learned the days of the week or the colors and who have never really learned much about cerebral thought can be with and learning from kids from middle-class families who are already speaking like adults.

I have a 3½-year-old granddaughter and when I talk with her I have to constantly remind myself that she's really a kid, she isn't a peer of mine.

Mr. HUNT. Mr. Chairman, I'm going to have to catch a plane and will have to leave in just a moment. May I say one word about that parent thing that you jumped on I'm so happy to hear?

Representative SCHEUER. Sure. I have another one that I want you to respond to.

Mr. HUNT. All right, sir, Let me just say this. When I did my practice teaching—that's what we called it then—it wasn't an internship really—as a vocational agriculture teacher in rural North Carolina back in the late 1950's, one of the requirements was that you visited the home of every one of your students. You had to do that. Some of them lived on farms, not all of them. It was changing. But you had to find out what that family situation was like, where was that kid coming from?

When I talk to teachers about doing that today, they look at me like I've lost my senses, and they are so busy and there is so much to do. But I think the people who have talked about this are right. There is no substitute for us reaching out. That means we've got to give them extra help and maybe extra pay, but you've got to reach and find out who they are, get to know them, invite them to come in. We've got to do that in the schools.

Representative SCHEUER. Do you really have to leave in the next couple of minutes?

Mr. HUNT. About 5 or 10.

Representative SCHEUER. OK. Let me ask you another question. I'm going to mention a word that hasn't been mentioned here this morning and I can't understand why not.

Principal, the school principal—from what I've learned just being around here and serving for 10 years on the Education and Labor

Committee, the school principal is a very key element in what happens in a school. The school principal can energize and support teachers. They can set an environment in a school where that school is an inviting place for learning, an inviting place for education, an inviting place for all kinds of new and improved communication between teachers and kids. A principal is key to the role of encouragement, of stimulation, of accountability.

How come the key role of the principal hasn't been mentioned here this morning? What should States and cities be doing to encourage the training and advancement of young teachers who seem to have that spark of leadership, of encouragement, of support, of the ability to produce some accountability? What kind of development programs should we be stimulating for principals and is there a potential Federal role?

Mr. HUNT. Mr. Chairman, you have put your finger on something that's very important. We have talked a lot about teachers. We all have different things we are doing right now. But there is no substitute for that principal as the leader of that school.

Somebody has called the principal the leader of leaders. All the teachers are leaders, but he or she is the leader of leaders and thank goodness there are more women doing it today and they have come in it the right way.

I really believe that we do need to do that. In North Carolina, we established a Principals Institute at the University of North Carolina at Chapel Hill.

Representative SCHEUER. That's just what I'm talking about.

Mr. HUNT. That's been done in a number of places.

Representative SCHEUER. Have all the 50 States started it?

Mr. HUNT. I don't know if all of them have. I'm sure all of them have not, but this is beginning to happy in different places and we're probably behind what we're doing for teachers in what we're doing for principals and other administrators these days.

There are others who probably have better ideas about this than I do, but that's critical. You can go to a school, it may be in the toughest, poorest area in this country, and if it's got the right kind of exciting, supportive principal, the teachers will be excited, they will be working hard, they will be working together, they will be reaching out to the parents, and wonderful things happen.

Mr. COLE. I would disagree to an extent. I think you can substitute for the good principal and have an effective school and in fact I think——

Representative SCHEUER. Why would you want to?

Mr. COLE. Well, let's talk about the——

Representative SCHEUER. Excuse me. Didn't you say, Mr. Cole, you could substitute for a good principal?

Mr. COLE. I believe you can. We teachers could become the instructional leaders. In fact, I think most of the places you see an effective school we focus on the principal and say, "Well, he provided the leadership," and that is true. Under the structure today, it has to be that way.

But then you look a little closer and you see that what is really happening here is that that principal has had the intelligence and the insight and also is confident enough in himself and has a big enough ego to say, "I can't do all of this myself and I'm going to develop a team approach here," and has involved everybody on the faculty and everybody in the school in the learning approach.

Representative SCHEUER. You just described the role of being a first-class principal.

Mr. COLE. But how many of them are like that out there? What we see right now with the present structure that we have is that in order to get that fellow to do that he probably has to break rules from downtown, he probably has to be a bit of a guerrilla—not a zoo gorilla but in the sense of a guerrilla warrior I'd say—and that he's got to be sniping at the rules all the time to get the focus of the faculty on the instruction and not on the bureaucracy, the redtape, et cetera.

Representative SCHEUER. And you're describing that tremendous leadership role and saying we can substitute for it?

Mr. COLE. Well, I think there are many different models that might be looked at. One model might have the school led by a cadre of master teachers and they might not even have anybody called a principal, but they might provide instructional leadership, they might hire a business manager.

When you look at the job we assign principals now, you quickly conclude we are hiring super men and women or that something is not getting done. They are supposed to not only be the instructional leader, they must be the public relations expert. They must be the disciplinarian in the elementary schools. They must count the chalk and make sure the cafeteria has enough enchiladas. They must make sure the buses arrive on time.

Representative SCHEUER. Now come on, let's be serious. They don't do that. They delegate that. They do have a team. They do have assistants.

Mr. COLE. In good professional schools they do.

Representative SCHEUER. They can't possibly do all those things because if they tried they would not have time or energy left for their main job which is stimulating learning.

Mr. COLE. I would agree with you that your statement is correct. So they don't stimulate learning in many cases because what you try to do if you're working in a bureaucracy is you try to do the thing that you can show has been done. That usually means a preoccupation with redtape and paperwork.

Representative SCHEUER. I can't believe that any principal worth his or her salt is going to have a predilection toward checking up on chalk or enchiladas. The role of the principal is to organize, to lead, to provide some accountability, and I can't believe there isn't a——

Mr. COLE. Let's look at the structure of the school. What executive officers do you have and who do you have in support? In an elementary school, for example, or a junior high, it's very common you have a principal, maybe an assistant principal, but more often than not you don't in a smaller school, a secretary who in effect runs the school and does the business manager's role, and then if they're lucky they have perhaps a counselor or somebody else around in support.

Representative SCHEUER. Well, you may be describing a problem.

Mr. COLE. I am describing a problem.

Representative SCHEUER. Yes, of course, there's a problem there. The question is, how do we train, recruit, and bring along young people that have the leadership talent to be principals and put them in the leadership role, so that they can energize the school and inspire the teachers and encourage maximum communication, and maximum learning between teachers and kids?

Mr. COLE. Well, suppose they don't have that ability but they have good abilities in the other areas?

Representative SCHEUER. What areas?

Mr. COLE. Suppose they are great business managers.

Representative SCHEUER. Well then they should be a business manager, but they shouldn't be a principal. A principal's main role is to inspire learning. Of course, the principal needs administrative support but the role of a principal is not the role of a business manager, who orders supplies and and so forth. That is the role for an assistant to a principal. It's got to be done and its' got to be done right, but it's not the education role that really symbolizes the principal. And to the extent that principals get to be principals because they are good business managers, that is a hurtful thing in the school system.

Mr. COLE. I don't think they get their jobs because of that and I'm not suggesting it. What I am suggesting is that if they don't deal with those things, the school doesn't run.

Representative SCHEUER. Well, of course, those things are just automatic.

Mr. COLE. Those things themselves will just occupy your whole time.

Representative SCHEUER. Then there's something rotten in Denmark if those administrative and custodial functions occupy even a minor part of a principal's time. They can't do the job of principal if they are involved with custodial and administrative and bureaucratic functions. Mr. Campbell.

Mr. CAMPBELL. I would like to just respond very quickly by associating myself with what Mr. Cole just said. I think you've touched on one of the most serious organizational problems there is in the delivery of educational services which is educational leadership at the school level.

Frankly, that is not often supplied by the principal. The principal is the "carrier out of the orders" from district headquarters and from the State. In my own going around the country and speaking to schoolteacher audiences, there's frequently a war between the teachers and the principal.

Representative SCHEUER. And then a war between the principal and his superiors.

Mr. CAMPBELL. Well, it depends on where the principal aligns himself or herself, whether they align themselves with higher authority or whether they align themselves with the people in the school.

If one goes to the model suggested by the Carnegie Report of really professionalizing teachers and you ask yourself, how are professionals managed in the professions, in law and in accounting? You have professional partners who manage that firm.

Representative SCHEUER. Sure.

Mr. **Campbell**. Now the model suggested by Mr. Cole of a group of lead teachers who are in charge of the education program of that school and who, if they need some administrative help—and as I've said to teacher audiences, if they want to hire themselves a principal, hire themselves a principal, to which they cheer loudly because that means it isn't imposed upon them from on high.

All I'm trying to suggest is that this issue is a very difficult one and that the status quo places the principal in what I believe is an impossible role, a role that they are either the enforcers of those mandates from on high or they are at war with those on high trying to support the teachers and the schools. And neither works.

Representative **Scheuer**. Well, what is the answer? Is it a process by which 50 States which are uncoordinated and unrelated work on an ad hoc basis by hook or by crook and muddle through, as the British say, to an answer? Or is there perhaps a Federal role here? We don't want the Federal Government writing curricula. We don't want them setting standards. But is there some way that the Federal Government, the Congress, could perhaps help define the roles of the principal and the teacher, for example, and thus liberate the principals and the teachers and get away from this teacher-proof system that you talked about, Mr. Campbell?

Is there a Federal role in achieving some kind of a breakthrough in defining the responsibilities and the roles of the teachers and the principals?

Mr. **Campbell**. I would argue that there is not.

Representative **Scheuer**. I would, too.

Mr. **Campbell**. This is a matter that will have to work itself out. We do not have sufficient empirically based evidence to know what the best organization is. I think there's a lot of ferment out there. It is possible that the Federal Government could, through R&D money, encourage experimentation and attempt to pass around what's working.

It's amazing what's known—when you have a Dade County situation or a Rochester situation or some independent elementary schools in the New York City system that are working great, to get that information out.

Representative **Scheuer**. Well, endemically one of the most awful problems in our society is how we ignore our successes and we treat the successes and failures as if they are equal. We haven't learned yet how to identify our successes and build on them and look at the failures and analyze what went wrong—was it the initial underlying intellectual foundations? Was it something in the operations? We haven't learned to cut out with a surgeon's scalpel those elements that got off track and to improve on our failures and build on our successes. We still haven't learned how to do that and that's one of the great really tragic lessons that comes out of the poverty program. It's pitiful. Yes, Mr. Butler.

Mr. **Butler**. I'm not sure there isn't any Federal role in this. I think the definition——

Representative **Scheuer**. Excuse me for interrupting you. Mr. Campbell, at the end, came to a Federal role, in dispensing information.

Mr. **Butler**. I agree with the role he came to. However, I'd like to point out that we in CED have focused pretty much on this area as perhaps the greatest single contribution that business locally can make to its schools locally, because all of us do train managers every day. We hire salemen. Before we let a salesman become a sales manager, we train the good salesman to be a manager. We don't simply assume that he will be a good manager.

Before we make the brand man an associate advertising manager, we train him in management—a totally different set of skills, a set of skills that presumable we are pretty good at. And we feel that business generally, when it tries to help in its local schools, ought to concentrate in that area much more than in trying to go in and do the educating, that where we can really contribute is at the superintendent's level, helping them with business management problems, building maintenance, parking lot maintenance, bus scheduling, mass feeding—things that are business problems, not educational problems.

And either setting up for the schools or in helping the schools set up management training programs for their principals, because although we do need to get back to the academic level and train people to be principals, we've got 80,000 schools out there and each one has a principal and a lot of them are going to be with us for a long time. We've got to get out and train the ones that are there to be better managers.

Representative SCHEUER. How do we train people to be principals? Does the system just take a teacher who seems to be doing a good job and just annoint him or her principal?

Mr. CAMPBELL. In most States, Mr. Chairman, there is a set of requirements related to academic preparation where there are education administration courses and there needs to be a certain minimum number of hours before a person becomes eligible to become a principal and then there is a competition process by which principals from that eligible group are selected.

Representative SCHEUER. I take it there's some feeling here that that process, the process of identifying potentially excellent principals and training them and bringing them along, ought to be improved?

Mr. CAMPBELL. It has to be tremendously improved, yes.

Mr. BISHOP. Could I say a word about the Federal role?

Representative SCHEUER. Yes, Mr. Bishop.

Mr. BISHOP. I think we should think beyond just the principal issue in considering the Federal role.

One of the reasons why employers don't currently reward achievement in school is the fear that if they use tests to select their workers they will be in danger of an EEO suit.

And while the psychology profession has shifted its beliefs about the fairness of aptitude tests to minorities, the EEO has not changed its regulations. So there's a need for some changes there.

Second, I think in the R&D area the Federal Government needs to support the development of new assessment mechanisms that don't depend upon multiple choice answers, something that goes after higher order thinking skills, essays, and practical forms of assessment in which a person is observed in conducting experiments instead of just paper and pencil tests.

The more we strive for accountability by looking at outcomes rather than accountability through specifying and mandating inputs, the more these assessment mechanisms become critical. They are very costly to develop, as we heard it was going to cost $40 million to develop the assessment mechanism for board certifying teachers, because you have to be very careful to make sure tests and assessment mechanisms are fair and do not discriminate.

Consequently, this is an area the Federal Government should be funding the National Association of Teachers of Mathematics or State associations that want to design a new test that has has a different angle that measures different things. That's another thing that the Federal Government should do.

Third, a Federal role that no one has brought up yet is Federal support for the production of educational TV programs. This is something that has to be done at the Federal level.

Educational TV has a terrific potential. At present, there are only a couple of programs. They have stopped producing new versions of 3-2-1 contact. Basically we're seeing reruns of most everything. The Federal Government should fund a major expansion of educational TV.

Finally, if you were ever to get your deficit problem to a point where you could envision throwing some real money at the problem, I think what should be considered is Federal grants in aid that contribute toward the cost of increasing the schoolday and increasing the schoolyear, not compulsorily necessarily for everyone, but keeping the schools open during the summer and having the school stay open until 5 o'clock instead of 2:30, as is currently the case.

Representative SCHEUER. Let me just focus on that question of unused school capacity because I think it's an economic crime and it's a political crime and it's a sociological crime. It is just unbelievably hurtful.

What should be the stimulating organizing mechanism to get schools to look at themselves as educational resources for the students and perhaps community resources, too; resources to take into account the needs of adult education for illiterate adults, semiliterate adults, functionally illiterate adults, and perhaps the literate adults, too? How should the school be organized in the day and evenings over the summer, in evenings, during the week, during the entire schoolyear? There's no reason why schools have to close at 3 o'clock or even 5 o'clock. Maybe they should be open 6 days a week or 7 days a week, holidays, evenings, weekends.

We get back to this custodial problem. You know this if you're in the educational system. It costs $100 to pay the custodian to clean up the school and, therefore, the civic or community group can't afford to use the school. So that whole resource lies fallow.

What do we do with those empty schools in the summer? What do we do about the length of the schoolyear? As I say, the Japanese students go to school about 240 days a year. American kids go for about 180 days a year. Should we be lengthening the school year? I know the teachers unions are going to squawk about that. Maybe that's a problem that has to be met. Maybe we should pay them more.

How do we approach "conceptually" the whole question of the unused educational plant resource? How do we design a way so that the resource can come to life with a whole proliferation of activities—some of them aimed at the functionally illiterate adult, some of them aimed at remedial assistance for kids who are having problems, and some of them aimed at providing just fun and stimulation and extracurricular activities for the kids who are making it, too, over the summer?

And how much should the schoolyear be extended? Now we have about 7 minutes to get comprehensive, simple, workable, doable ideas to meet all of these prospects.

Mr. CAMPBELL. Well, I would begin with examining the need for the provision of a great variety of educational services taking advantage of that summer period, rather than starting with the proposition that we have some empty buildings, what can we do with them?

I think one of the central problems is that the debate has been cast in terms of extending the schoolyear as opposed to trying to use that time to provide different kinds of effective education experiences. One of the difficulties is that the education establishment is not particularly good at developing those kinds of programs and activities. And I would simply urge that there be an examination, community by community, about what is needed, whether it is education for the at-risk students, whether it is literacy for the adults, and then develop a set of programs in which the total community is involved.

Representative SCHEUER. How about all of the above? You mentioned the at-risk student, the——

Mr. CAMPBELL. I'm saying all of the above could be done, but I don't believe that is likely to come out of the education establishment sitting down and trying to decide what needs to be done.

Representative SCHEUER. Where is it going to come from? Where is that conceptual thinking going to come from?

Mr. CAMPBELL. Let me just very quickly point out what I think is a very serious problem in that we have so divided functional responsibility for the kinds of services that are needed between education departments, welfare and social service departments, youth employment programs, and there is very little interaction among those agencies.

I mentioned earlier Public/Private Ventures with which I am involved. We received support from the Ford Foundation to put in three States—Massachusetts, South Carolina, and Oregon—a person that would try to bring those departments together because it requires an outside intervenor to do that. It has taken hold in only one State. It took in Oregon where the Governor now is doing it on his own.

Somehow we have to bring together those agencies which have responsibility for different parts of the childhood development as well as the educational development of the whole child. Unfortunately, we are not doing that very well and that's going to require, I think, leadership from the political side, from Governors and from mayors, in order to force those competing bureaucracies to work together.

Mr. BISHOP. One very small thing that I think the schools could do—they don't necesarily have to provide all the programs during the afternoon or summer programs. There are lots of other educational providers who will set up in the school if they are allowed to.

What the school system needs to do is to take care of the janitorial function of having the building there, and monitoring things; and second, the buses. The buses are the thing that drive the entire school schedule. The fact that the buses have to leave at a certain time and most kids don't have another convenient way home is the thing that forces everyone out of the building and out of the area by a certain time.

Why not have the buses also go home at 5 as well as at 2:30? Now, of course, that means that increases costs. You've got to have the schedule run twice rather than just once. But if you do that and then you allow all the music teachers, et cetera, in the community set up in the high school and in the grade school, you would have a lot of activity going on there and the school system itself would not have to pay for all those teachers that are in the school at the time.

Mr. Cole. I would want to second one thing that Mr. Campbell said, which is that we ought to view the problem as being what do we want to accomplish, and then see how we go about accomplishing it. If we can do that in 183 days, great. If it takes us all year, that might be the way we ought to go at it.

I'm not sure that the teachers' unions would naturally object. There are a lot of teachers out there that would welcome a 25 percent increase in their salary. Now you would have to allow for such things as professional growth and people getting their master's, being able to select out a quarter or something.

But let me throw one more example of how the structure that we have blocks this type of initiative. I just did a quick calculation a moment ago while you were talking about what would happen if a school system in Texas under our present finance structure and other structures were able to discover a way by using the schools all year round or whatever so that some of our students could graduate at what is now grade nine with a full component of learning.

Well, it would cost that school district for 100 such students about $630,000 in State funding because all of the funding is geared to the idea that you're going to have a child there for 1 year and you're going to get a certain amount of funds for that child for that year. If you have a kid who learns more than he should, in order to keep him around to get his funding you have to have him there through the 12th grade.

I would suggest to you that that's the kind of impediment that's probably more of a blockage to restructuring the schools along the lines we're talking about than the unions or any other thing we could talk about. It's just the fact that the structure of rewards, that type of behavior, as opposed to learning center behavior.

Representative Scheuer. That's a very profound and provocative note on which to end this hearing. It's exactly 12:25. I thank you all. It's been enormously productive and interesting and fascinating. I only wish we could keep on going all day. A thousand thanks to you all.

[Whereupon, at 12:25 p.m., the subcommittee adjourned, subject to the call of the Chair.]

# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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## MONDAY, OCTOBER 5, 1987

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: Deborah Matz, professional staff member.

## OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative **Scheuer**. The hearing of the Subcommittee on Education and Health will commence. Today's hearing will focus on The Right Standard: Literacy, The Old Basics or the New Basics.

I am pleased to welcome our distinguished witnesses to the third day of this series of hearings on "Competitiveness and the Quality of the American Work Force."

On 2 previous days, we received excellent testimony about the relationship between skill levels and the Nation's competitive position in the world market. We also heard assessments on why high school students failed to meet standards.

Today, we will be discussing the quandary of the new basics versus the old basics.

It's apparent that education is a crucial and often missing factor preventing the United States from maintaining its competitive position in productivity compared to our new global competitors.

The quality of education is increasingly the most critically important determinant of the quality of the American work force and of our competitive edge, or lack thereof.

And, currently, the quality of American education is receiving failing grades. There are battalions of unemployed high school graduates who cannot meet the needs of industry. The New York Telephone Co. recently reported that 84 percent of its applicants from New York City failed the entry-level examination.

Of the 22,800 applicants, only 3,600 passed the examinations which test skills that involve the usage of vocabulary, number relationships, and problem solving for jobs ranging from telephone operators to service reps.

This story is repeated over and over again from industry to industry. Adding confusion to an already complex situation is the lack of agreement on the type of education which students must receive in order to participate in the work force in a meaningful fashion.

There's no doubt that all Americans must be able to read, write, and count in order to function in our industrial society.

Lack of literacy, thus, remains an enormous problem in this country and a significant drain on our industrial capacity. But, as I understand it, literacy alone, as difficult as that may be to obtain, is simply not enough to ensure that our workers have the necessary skills to meet the needs of industry.

Repeatedly, in the last several weeks, we have been advised by witnesses appearing before this subcommittee that our workers and, indeed, our service men and women, must be able to think on the job. They must be able to solve problems and make judgments, sometimes quickly, on the basis of admittedly incomplete information.

And they must be able to use their intuition, their imaginations, to develop solutions to problems with which they may not be familiar.

The United States is facing a serious deficit of critical thinking ability. This seems even more difficult than teaching basic skills. And we haven't even been able to accomplish that.

I'm interested in the opinions of the witnesses before us as to what we should be doing to teach students and how this can be achieved.

We have this morning the following witnesses:

Mr. Badi Foster, president of Aetna Institute for Corporate Education, Aetna Life & Casualty Co. He'll be discussing how skill requirements in the service sector have been changing.

Mr. Arnold Packer, senior research fellow of the Hudson Institute, is a former Assistant Secretary of Labor under President Carter and codirected the "Workforce 2000" study for the Department of Labor.

Mr. Paul Barton is associate director of the National Assessment of Education Progress. NAEP is the organization which conducts studies of functional illiteracy, and their results are widely respected and used.

Why don't we ask each of you to take about 8 or 10 minutes summing up your thoughts, hopefully not reading your prepared statement, which will be reprinted in full in the record.

Just simply chat with us as though you had been invited into our living room, or we had been invited into your living room. Chat with us about your testimony.

And after each of you have testified, I'm sure we'll have some questions for you.

Why don't we go from my right to my left. Mr. Packer.

## STATEMENT OF ARNOLD H. PACKER, SENIOR RESEARCH FELLOW, HUDSON INSTITUTE

Mr. PACKER. Thank you, Mr. Chairman. It's a pleasure to be here and to be involved in this very important set of hearings.

We at the Hudson Institute are very intrigued by the title, the new basics, because we really think that is the crux of the problem.

To summarize our work, in a sense, to——

Representative SCHEUER. Excuse me. What's the crux of the problem?

Mr. PACKER. The crux of the problem is the new basics and the fact that what is being taught is sometimes very different from what business requires of their employees.

We published "Workforce 2000" and I have brought an executive summary for the record. But, the most important points there are that we do, indeed, have to resume our productivity growth; as Mr. Foster will testify, especially in the service sector.

We have to do this at a time when the demographics are shifting so that 40 percent of the addition to the labor force will come from immigrants and minority groups.

The demographic shift occurred just as the requirements for employees are increasing very rapidly. And looking at the increased jobs—that is, the 26 million jobs we anticipate to be added to the economy between 1985 and 2000—we're finding that, whereas 9 percent of current jobs require very little capacity intellectually, only 4 percent of the addition will allow people to get away so easily.

We'll have to have the capacity to read instructions and do higher level skilled jobs in many more of the new jobs.

We are doing two things right now at the Hudson Institute that I'd like to speak to. First, we are comparing our results, which has to do with the demands of employers, to the results that Mr. Barton, of the NAEP, will speak to this morning which indicates just what 21 to 24 year olds are capable of doing.

In general, we're finding that the great majority, perhaps as much as 90 percent of the 21 to 24 year olds, cannot do three-fourths of the jobs that we anticipate will be required.

That means only 1 out of 10 new workers can do three out of four of the jobs we expect between now and the year 2000.

The country will have two choices. That is, they will choose from two alternatives. Either they will downgrade the jobs, which means we will have less productivity growth and will lose the competitiveness battle, or we'll upgrade the workers. And that's essentially the alternative.

It is important that we move to the new basics. If you think of the alphabet as a code, most youngsters seem to be able to break the code well enough to read at the fourth grade level.

The NAEP says that all but 5 percent of 21 to 24 year olds can read. But, when it comes to understanding a business form or figuring out the change from a minor transaction it breaks down. They can't do the reasoning or the information processing, which I think is the important criterion, that's necessary.

They cannot comprehend a document on paper or on a TV screen or a computer monitor in a way that is necessary to do the jobs that the American economy is going to produce if we're going to be productive.

I'd like for a moment to talk about five projects that we're involved in that are an attempt to change that. I think they're important because they're the first step perhaps, or one of the first steps in a process that has to be encouraged if the country is going to succeed.

Three of the projects are joint public/private ventures, one with the UAW and General Motors in which we're trying to develop a course to teach workers to be ready for the jobs at General Motors in the year 2000.

They've already decided to use interactive video disks, which is a new technology that I gather you have seen, Mr. Chairman, at the demonstration of technology that you've had here. Interactive video disk combines video on a disk with a computer and a touch screen.

And we're going to work with General Motors to develop this course on the jobs of the future.

We are also working with the UAW-Ford training center. Those two training centers, by the way, Mr. Chairman, are supported by the so-called nickel fund. They're supported by 5 to 10 cents an hour for each UAW hour worked in those two companies.

They have set up centers to do training. The Ford Project will focus on math in the workplace and will teach that very important skill to Ford workers.

The third industrial project is with Domino Pizza, an example of a very fast-growing, high-productivity service industry. We're going to teach workers how to make pizza dough.

Really, what we're going to teach is the literacy required to fill out a quality control report, to make sure that the pizza doughballs have the right shape, and that they bake at the right temperature. It's surprising, when one walks into a Dominos building, to see how many charts they have there, how they maintain quality.

The other two projects are with the public sector. One is to take the course which I think you're seen demonstrated, by the name of PALS or principals of alphabetic literacy systems. PALS is distributed by IBM and was developed by John Henry Martin.

The project will combine PALS with a course that I have been involved with by the name of Skillpack, which teach things such as how to understand an invoice or a maintenance log.

We're going to do that in two places. One is here in Washington on 15th and Irving Street NW., at a high school that primarily serves immigrants.

The second will be in New York, where there's a consortium for literacy made up of eight unions. They are going to train people who are working, but whose literacy and English language skills are insufficient for the changing in the workplace.

The important challenge is to determine how are we going to use new technologies, which are partly a cause of the problem in the sense that they increase the requirements at the workplace—and use those new technologies for education and training purposes.

There are lots to be done and it needs to be done quickly if we're going to be in the position we want to be in the year 2000. We have to, during the 1990's, improve literacy and the information processing skills of 15 to 20 million Americans if we're going to maintain our goals.

The President has asked to reduce workplace illiteracy by half by the year 2000. That's also consistent with a 2 million person a year program that is effective. It is important that it be effective because the dropout rate in adult education is very high.

We think that technology provides an opportunity to reduce the dropout rate and to meet our goals. In essence, that is what we're finding and that's what we're trying to work with. And that, Mr. Chairman, is the message we have for you this morning.

[The prepared statement of Mr. Packer, together with the executive summary of "Workforce 2000," follows:]

# PREPARED STATEMENT OF ARNOLD H. PACKER

MR. CHAIRMAN. IT IS A PLEASURE TO APPEAR BEFORE YOU THIS MORNING AND AN HONOR TO BE PART OF THIS PANEL AND LIST OF WITNESSES.

THE TITLE OF THIS SESSION: "THE RIGHT STANDARD: LITERACY, THE OLD BASICS OR THE NEW BASICS," IS INTRIGUING. IT FITS PERFECTLY WITH THE WORK WE ARE NOW DOING AT THE HUDSON INSTITUTE TO EXTEND THE FINDINGS OF "WORKFORCE 2000".

IN JULY, HUDSON COMPLETED THE FIRST VOLUME OF "WORKFORCE 2000." I WILL SUMMARIZE ONLY A FEW POINTS OF THAT REPORT BUT WILL SUBMIT THE EXECUTIVE SUMMARY FOR THE RECORD.

## WORKFORCE 2000:

THE FOUR KEY POINTS ARE:

1. NOW THAT THE LAST OF THE BABY BOOMERS ARE 23 YEARS OLD THE U.S. WILL HAVE TO DEPEND MORE ON PRODUCTIVITY FOR ITS ECONOMIC GROWTH. SINCE THE LABOR FORCE IS ONLY GROWING BY 1.3% ANNUALLY, PRODUCTIVITY, OR OUTPUT PER WORKER, MUST INCREASE BY MORE THAN 1.5% ANNUALLY IF OVERALL OUTPUT GROWTH OF 3% IS TO BE ACHIEVED (THE AVERAGE OF THE LAST 30 YEARS).

HOWEVER, ANNUAL PRODUCTIVITY GROWTH SINCE 1973 HAS BEEN LESS THAN 1%, A FRACTION OF THE PERFORMANCE OF THE 1960'S. EMPLOYERS' INABILITY TO INCREASE THE SKILLS USED BY THEIR WORKERS IS ONE OF THE REASONS FOR THE PRODUCTIVITY SLOWDOWN.

2. PRODUCTIVITY GROWTH WILL HAVE TO RETURN TO THE SERVICE SECTOR. THAT IS, THE OUTPUT PER HOUR WORKED IN RETAIL STORES, HEALTH, EDUCATION, BANKING, AND OTHER SERVICES GREW BY 1.4% IN THE 1955-70 PERIOD AND NOT AT ALL DURING 1970-85. SINCE ALL OF THE NEW JOBS WILL BE IN SERVICES, NOT IN GOODS PRODUCTION, A RESUMPTION OF THE EARLIER PROGRESS IS REQUIRED.

3. THESE PRODUCTIVITY IMPERATIVES REQUIRE A TRAINED WORKFORCE AT A TIME WHEN A LARGER FRACTION OF THE COUNTRY'S NEW WORKERS ARE FROM THE RANKS OF THE LEAST WELL-SERVED EDUCATIONALLY. IMMIGRANTS AND MINORITIES WILL MAKE UP MORE THAN 40% OF THE ADDITION TO THE LABOR FORCE BETWEEN 1985 AND 2000.

4. FROM THE POINT OF VIEW OF THESE GROUPS THERE IS GOOD NEWS AND BAD. THE GOOD IS A SHORTAGE OF ENTRY LEVEL WORKERS. THE BAD NEWS IS THAT NEW JOBS REQUIRE MORE EDUCATION AND SKILLS.

WF2000 PROJECTED THE SKILLS LEVELS THAT THE U.S. WORKFORCE WILL REQUIRE IF THE PRODUCTIVITY ASSUMPTIONS ARE TO BE MET AND ASSUMING THE SKILLS LEVELS OF CURRENT JOBS ARE UNCHANGED. THAT IS, WE PROJECTED THE INCREASED SKILL REQUIREMENTS BECAUSE OF THE CHANGING MIX OF JOBS.

## ESTIMATING THE MISMATCH

THE LABOR DEPARTMENT MEASURES SKILL REQUIREMENTS ON A SCALE OF ONE TO SIX BASED ON INTERVIEWS WITH SUPERVISORS, PERSONNEL DEPARTMENTS AND, OCCASIONALLY, WORKERS. THE MEASURES APPLY TO LANGUAGE, MATH, AND REASONING SKILLS. THESE ARE NOT THE OLD BASICS OR SCHOOLHOUSE MEASURES, SUCH AS FIFTH-GRADE READING. THESE ARE THE NEW MEASURES OF WORKPLACE REQUIREMENTS, THE ONES THAT ARE RARELY TAUGHT IN SCHOOL. (THE DEFINITIONS OF THE LANGUAGE SCALE IS ATTACHED.)

CURRENTLY 9% OF THE JOBS IN OUR ECONOMY REQUIRE ONLY THE LOWEST LEVEL OF SKILL; THAT IS, 9% OF U.S. JOBS ONLY REQUIRE READING 2500 WORDS. ANOTHER 31% REQUIRE LEVEL-2 SKILLS, THE ABILITY TO READ ADVENTURE STORIES AND COMIC BOOKS. OF THE NEW JOBS -- THE 26 MILLION JOBS EXPECTED TO BE CREATED BETWEEN 1985 AND 2000 -- THE CORRESPONDING SHARES ARE ONLY 4% AND 23%. THAT IS, 40% OF CURRENT JOBS REQUIRE LEVELS ONE OR TWO BUT ONLY 27% OF THE NEW JOBS WILL BE SO EASILY SATISFIED. ONE IN THREE JOBS WILL REQUIRE THE CAPACITY TO READ MAGAZINES AND INSTRUCTIONS AND TO WRITE A SIMPLE REPORT. THE REMAINING 40% WILL REQUIRE EVEN HIGHER SKILLS.

THUS, FOR THE YEAR 2000, WE HAVE A MEASURE OF LABOR DEMAND IN TERMS OF THE NEW BASICS (FOR LANGUAGE AND MATH SKILLS COMBINED). THE RESEARCH CHALLENGE IS TO COME UP WITH A COMPARABLE MEASURE OF LABOR SUPPLY AND THEREBY ESTIMATE THE GAP OR MISMATCH BETWEEN SUPPLY AND DEMAND. BUT, UNTIL RECENTLY, WE HAD NO SUCH MEASURE. FORTUNATELY, THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP) MEASURED THE ACHIEVEMENT OF 21 TO 25 YEAR-OLDS IN 1985.

IN DOING SO, NAEP ESTABLISHED ANOTHER SET OF NEW BASICS -- THE ABILITY TO PROCESS INFORMATION IN PROSE, QUANTITATIVE, AND DOCUMENT FORM. THEY FOUND THAT MOST (95%) OF AMERICAN 21 TO 25 YEAR-OLDS COULD READ AT THE FOURTH GRADE LEVEL OR BETTER. BUT FEW COULD DO HIGHER LEVEL TASKS. FOR EXAMPLE:

> 40% OF WHITES, 60% OF HISPANICS, AND 75% OF BLACKS COULD NOT LOCATE INFORMATION IN A NEWS ARTICLE OR ALMANAC (PROSE LITERACY);
>
> 66% OF WHITES, 80% OF HISPANICS AND 92% OF BLACKS COULD NOT FIGURE OUT THE CHANGE FOR A TWO-ITEM RESTAURANT MEAL (QUANTITATIVE LITERACY); AND
>
> 75% OF WHITES, 93% OF HISPANICS, AND 97% OF BLACKS COULD NOT INTERPRET A BUS SCHEDULE (DOCUMENT LITERACY).

BECAUSE THEY CONCENTRATED ON 21 TO 25 YEAR -OLDS, NAEP REALLY ESTIMATED THE LABOR SUPPLY OVER THE REST OF THE CENTURY.

MOST RECENTLY, WE AT HUDSON HAVE BEEN TRYING TO RELATE THE LABOR DEPARTMENT'S MEASURE OF LABOR DEMAND TO THE NAEP MEASURE OF LABOR SUPPLY TO ESTIMATE THE MISMATCH. WE WILL HAVE RESULTS BY THE END OF THE MONTH. AT THIS POINT, ON THE BASIS OF PRELIMINARY DATA, IT APPEARS AS IF THE FOLLOWING CONCLUSIONS WILL BE DRAWN:

DOCUMENT LITERACY WILL BE IN SHORT SUPPLY AND PROSE LITERACY IS ONLY SOMEWHAT LESS OF A PROBLEM. (THE MATH LITERACY DATA IS UNUSABLE.) IF CURRENT TRENDS PERSIST, PERHAPS 15 TO 20 MILLION AMERICAN WORKERS WILL BE UNABLE TO ADEQUATELY PROCESS INFORMATION IN DOCUMENT FORM AND ABOUT HALF OF THESE WILL HAVE DIFFICULTY WITH PROSE READING ALSO.

MOST 21 TO 25 YEAR-OLDS CANNOT ADEQUATELY COPE WITH BUS SCHEDULES, BUSINESS FORMS, CHARTS, DATA ON A COMPUTER SCREEN, ETC. YET, THESE ARE JUST THE INFORMATION PROCESSING SKILLS NEEDED TO MEET THE DEMANDS OF THE YEAR 2000. LESS THAN HALF OF TODAY'S 21 TO 24 YEAR-OLDS HAVE THE SKILLS THAT ALMOST 3 OUT OF EVERY FOUR OF TOMORROW'S JOBS WILL REQUIRE.

## THE CHANGING LITERACY STANDARD

MR. CHAIRMAN, IT IS IMPORTANT TO NOTE THAT THE PROBLEM IS NOT DECLINING LITERACY BUT INCREASING REQUIREMENTS. CHANGING TECHNOLOGY, INTERNATIONAL COMPETITION, AND OUR EXPECTATION OF A CONSTANTLY IMPROVING STANDARD OF LIVING DEMAND IMPROVED HUMAN CAPACITIES.

IN THE LATE 1800'S 95% OF AMERICANS COULD SIGN THEIR NAME AND THAT WAS ALL THAT WAS NEEDED FOR MOST INDUSTRIAL OR AGRICULTURAL WORK. BY AROUND 1940, 90% of AMERICANS COULD READ AT THE FOURTH GRADE OR BETTER AND THIS WAS THE DE FACTO STANDARD. IT IS NO LONGER. THE NEW STANDARD GOES WELL BEYOND GRADE-SCHOOL MEASURES OF LITERACY.

ONE CAN THINK OF OUR LANGUAGE AS A CODE BUILT ON THE 50 OR SO SYMBOLS THAT APPEAR ON A STANDARD TYPEWRITER KEYBOARD. IN ADDITION TO THE ALPHABET THESE SYMBOLS INCLUDE THE NUMBERS, THE OPERATORS OF ARITHMETIC AND SPECIAL SIGNS FOR PERCENTAGE, AT, DOLLARS, (I.E., %,@, $) AND SO ON.

MOST YOUNG AMERICANS, 95% ACCORDING TO NAEP, UNDERSTAND THESE SYMBOLS WELL ENOUGH TO READ AT THE FOURTH GRADE LEVEL. (THE SAME PERCENTAGE AS HAD "SIGN-NAME" LITERACY A HUNDRED YEARS AGO.) THESE 21 TO 25 YEAR-OLDS CAN READ ADVENTURE STORIES AND COMIC BOOKS AND INSTRUCTIONS FOR ASSEMBLING MODEL PLANES. MOST CAN FILL OUT A DEPOSIT SLIP AT A BANK BUT FEW CAN LOOK UP A CHART ON OIL EXPORTS IN A REPORT.

THEY CANNOT READ JOURNALS, SAFETY RULES, OR MECHANICAL DRAWINGS OR PRODUCE A WELL-WRITTEN REPORT OR BUSINESS LETTER. LESS THAN HALF CAN DO THE "INFORMATION PROCESSING" THAT WILL BE REQUIRED BY THREE OF EVERY FOUR JOBS THAT A SUCCESSFUL AMERICAN ECONOMY WILL CREATE.

MOST WORKERS WILL NOT HAVE TO BREAK THE "CODE" REQUIRED TO UNDERSTAND LEGISLATION. BUT THEY WILL NEED TO READ A TABLE, UNDERSTAND A CHART, DECODE A PURCHASE ORDER, FILL OUT A QUALITY CONTROL CHART, UNDERSTAND A MAINTENANCE SCHEDULE, AND BE ABLE TO FOLLOW "IF....THEN" INSTRUCTION (I.E., CONDITIONAL SEQUENCING).
THE TERM "ACCESS SKILLS" DESCRIBES THE NEW STANDARD. THESE ARE THE SKILLS NEEDED TO ACCESS TRAINING OR JOBS THAT PAY A LIVING WAGE AND HAVE A FUTURE. WE HAVE NO TEST TO MEASURE "ACCESS SKILLS." THE NAEP TEST IS A STEP IN THE RIGHT DIRECTION BUT IT MEASURES LIFE IN THE WORLD, NOT AT WORK. FOR EXAMPLE, NAEP TESTED THE CUSTOMER'S ABILITY TO READ A RESTAURANT MENU, NOT THE DIETICIAN'S OR SHORT-ORDER COOK'S CAPACITY TO CREATE ONE.

NOR DO WE HAVE MANY PROGRAMS TO TEACH ACCESS SKILLS. WHERE, FOR EXAMPLE, CAN WORKERS LEARN TO INTERPRET INVOICES AND KNOW THAT THE NUMBERS IN THE COLUMN UNDER THE TITLE "QTY" MEANS THE NUMBER ORDERED? WHERE CAN THEY LEARN THAT A PIECE OF PAPER OR A COMPUTER SCREEN TELLS A COMPREHENSIBLE STORY ABOUT THE SHIPMENT: WHEN ORDERED, WHEN SHIPPED, PRICE, DISCOUNT, AND MORE.

## FIVE LITERACY AND TECHNOLOGY PROJECTS

THE HUDSON INSTITUTE IS SEEKING SOLUTIONS TO THE ACCESS SKILLS PROBLEM (AS WELL AS TRYING TO ESTIMATE ITS SIZE). THIS SUMMER THE U.S. DEPARTMENT OF LABOR MADE GRANTS TO FIVE ORGANIZATIONS TO UTILIZE TECHNOLOGY IN TEACHING ACCESS SKILLS. HUDSON ALSO RECEIVED A GRANT TO ASSIST AND MONITOR THESE FIVE PROJECTS. THE FIVE ARE BRIEFLY DESCRIBED IN A TRADE PUBLICATION, THE VIDEODISC MONITOR, WHICH I SUBMIT FOR THE RECORD.

ONE OF THE FIVE PROJECTS IS WITH DOMINO PIZZA DISTRIBUTION; THE ACTORY PART OF THAT SERVICE COMPANY. THE PROJECT WILL TEACH ACCESS SKILLS FOR THE PREPARATION OF THOSE SPHERES OF PIZZA DOUGH WHICH ARE SHIPPED TO THE DOMINO STORES. DOMINO'S HAS A CULTURE THAT EMPHASIZES PERFORMANCE CHARTS AND RAPID PROMOTION FROM WITHIN.

A SECOND PROJECT IS WITH THE UAW-FORD TRAINING CENTER. THE PROJECT WILL TEACH MATHEMATICAL LITERACY. PART OF FORD'S RECENT SUCCESS IS ATTRIBUTED TO ITS HUMAN RESOURCES AND INDUSTRIAL RELATIONS POLICIES. IT WILL BE INTERESTING TO SEE HOW THE PROJECT WORKS WITHIN THE NEW FORD-UAW CONTRACT THAT EMPHASIZES JOB SECURITY.

GM, LIKE FORD AND CHRYSLER, HAS A SO-CALLED "NICKEL FUND" WHICH SUPPORTS ITS NATIONAL TRAINING CENTER. ACTUALLY, MUCH MORE THAN A NICKEL IS PAID INTO THE FUND FOR EACH HOUR WORKED BY A UAW MEMBER. THE PROJECT AT GM WILL DEVELOP A COURSE ON THE ACCESS SKILLS NEEDED FOR THE GM JOB OF THE FUTURE, A NECESSITY IF GM IS TO MAKE THE BEST USE OF ITS NEW PLANTS.

IN EACH OF THESE THREE PROJECTS, NEW COURSE MATERIALS WILL BE DEVELOPED FOR USE WITH NEW TRAINING TECHNOLOGIES. AT LEAST TWO OF THE THREE (AND MOST LIKELY ALL THREE) WILL EMPLOY INTERACTIVE VIDEODISC. THAT TECHNOLOGY COMBINES VIDEO, WHICH IS PLACED ON AN OPTICAL DISC, AND A MICROCOMPUTER.

THE VIDEO ALLOWS THE INSTRUCTIONAL DESIGNER TO INCLUDE REAL JOB SITUATIONS -- FROM A PIZZA MACHINE TO AN AUTO ASSEMBLY PLANT. THE COMPUTER MAKES THE INSTRUCTION INTERACTIVE -- SELF-PACED AND COMPETENCY-BASED.

WHEN ONE RECALLS THAT TRAINING AND EDUCATION ARE SERVICE INDUSTRIES IT IS EASY TO SEE THE LINK BETWEEN TECHNOLOGY AND SERVICE SECTOR PRODUCTIVITY. THIS APPROACH CAN IMPROVE THE OUTPUT OF TRAINERS BY 50 TO 100% AND HAS ALREADY DONE SO IN SOME MILITARY APPLICATIONS.

THE OTHER TWO PROJECTS ALSO USE INTERACTIVE VIDEODISC BUT THEY WILL TEST NEW COMBINATIONS OF TWO EXISTING COURSES. ONE IS PALS, "PRINCIPLES OF ALPHABETIC LEARNING SYSTEMS." PALS WAS DEVELOPED BY DR. JOHN HENRY MARTIN, CREATOR OF THE WELL KNOWN "WRITING TO READ," WHICH IS REVOLUTIONIZING 1ST GRADE READING INSTRUCTION.

PALS HELPS THE LARGE NUMBER OF ADULTS WHO READ BELOW THE 5TH GRADE LEVEL. ALTHOUGH ONLY 5% OF THE TOTAL 21 TO 25 YEAR-OLDS, THIS GROUP IS IMPORTANT BECAUSE IT AFFECTS SO MANY MINORITY WORKERS, ESPECIALLY THOSE IN POOR FAMILIES. ALSO, THE NAEP 5% ESTIMATE OF TRUE ILLITERACY IS LOW BECAUSE IT EXCLUDES THOSE WHO ARE NOT POLLED IN A HOUSEHOLD SURVEY; THOSE IN INSTITUTIONS OR OUT ON THE STREET WHEN THE POLLSTER ARRIVED.

THE OTHER COURSE THAT WILL BE TESTED IN THE TWO PROJECTS IS "SKILLPAC." THIS COURSE, DESIGNED BY THE CENTER FOR APPLIED LINGUISTICS, IS USED TO TEACH ENGLISH FOR INDUSTRY TO STUDENTS WITH LIMITED ABILITY TO USE ENGLISH FOR JOB PURPOSES. THE SKILLS INCLUDE: USING THE TELEPHONE, CHECKING A SHIPMENT AGAINST AN INVOICE, FOLLOWING MAINTENANCE INSTRUCTIONS AND CHECKING A MAINTENANCE LOG.

THE TWO COURSES -- PALS AND SKILLPAC -- WILL BE USED IN TANDEM AT THE MULTICULTURAL CAREER INTERN PROGRAM, A NON-TRADITIONAL HIGH SCHOOL AT 15TH AND IRVING STREET NW IN WASHINGTON. MOST OF THE STUDENT POPULATION WILL BE YOUNG IMMIGRANTS.

THE SAME TWO COURSES WILL BE INSTALLED AT A UAW TRAINING CENTER AT ASTOR PLACE IN NEW YORK SOMETIME THIS MONTH OR NEXT. THE UAW IS PART OF A GROUP OF EIGHT UNIONS IN NEW YORK THAT HAVE FORMED THE CONSORTIUM FOR LITERACY. THE CONSORTIUM IS WORKING WITH THE CITY UNIVERSITY OF NEW YORK WHICH WILL RIGOROUSLY EVALUATE THE PROJECT.

THE GOALS OF THE FIVE PROJECTS ARE TO:

TEST NEW TECHNOLOGY (I.E., INTERACTIVE VIDEODISC);

DEVELOP NEW SOFTWARE (I.E., THE COURSES AT DOMINOS AND THE GM/UAW AND FORD/UAW NATIONAL TRAINING CENTERS);

DETERMINE HOW BEST TO USE THE TECHNOLOGY (E.G., HOW MUCH TEACHER SUPPORT IS REQUIRED?); AND

ACCELERATE THE SPREAD OF GOOD PRACTICES AMONG THE MYRIAD PLAYERS IN THE GAME OF TEACHING ADULT LITERACY -- THE JOB TRAINING PARTNERSHIP ACT SYSTEM, THE HIGH SCHOOLS, ADULT BASIC EDUCATION PROGRAMS, UNION/COMPANY TRAINING PROGRAMS AND COMPANY TRAINING PROGRAMS.

THE PROJECTS WILL EXPERIMENT WITH NEW WAYS OF PUBLIC/PRIVATE COOPERATION. DOMINOS INTENDS TO MAKE THEIR COURSE WIDELY AVAILABLE. THE AUTO FIRM/UNION TRAINING CENTER'S EXPERIENCE SHOULD SPREAD TO GM'S AND FORD'S SUPPLIERS. THE UNION CONSORTIUM INCLUDES THE TEAMSTERS, THE GARMENT WORKERS, HEALTH CARE LOCAL 119, THE TEXTILE WORKERS, AFSCME, AND TWO LOCALS OF THE UAW AND IS ACTIVE THROUGHOUT THE STATE. THIS PROJECT IS ESPECIALLY INTERESTING BECAUSE IT SERVES EMPLOYEES OF SMALL FIRMS THAT ARE UNLIKELY TO INVEST IN LITERACY TRAINING ON THEIR OWN.

THIS LAST POINT NEEDS TO BE EMPHASIZED. MOST EMPLOYMENT GROWTH IS IN SMALL FIRMS AND MANY SMALL FIRMS LIST TRAINING AS ONE OF THEIR PROBLEMS. YET, THEY CANNOT UNDERTAKE THE EFFORTS THAT AN AETNA OR MOTOROLA CAN. A MEANS MUST BE FOUND TO INCLUDE THEM, AND ALLOW THEM TO PROVIDE TRAINING AT THE JOB SITE. IS IT REASONABLE, FOR EXAMPLE, TO ASK A SINGLE MOTHER TO WORK A FULL DAY AND THEN COMMUTE TO SCHOOL? NOT WHEN TECHNOLOGY ALLOWS US TO DISTRIBUTE INSTRUCTION AMONG MULTIPLE SMALL SITES.

## THE CHALLENGE

PRESIDENT REAGAN HAS CALLED FOR REDUCING WORKPLACE ILLITERACY IN HALF BY THE YEAR 2000 TO MAKE OUR NATION INTERNATIONALLY COMPETITIVE. A PROGRAM THAT AVERAGED 2 MILLION SUCCESSES ANNUALLY COULD REDUCE THE NEW FLOW OF FUNCTIONAL ILLITERATES BY ONE MILLION EACH YEAR AND, IF IT LASTED FOR A DECADE, REDUCE THE CURRENT STOCK OF FUNCTIONAL ILLITERATES BY 10 MILLION OR HALF THE ESTIMATED NUMBER. I SHOULD EMPHASIZE THE NEED FOR SUCCESSES; MANY CURRENT ADULT BASIC EDUCATION PROGRAMS HAVE ABYSMAL DROPOUT RATES.

OUR ESTIMATES AT HUDSON ALSO INDICATE THE NEED TO ASSIST 15 TO 20 MILLION PERSONS OVER THE COMING DECADE OF THE 1990'S; I.E., 1.5 TO 2 MILLION SUCCESSES ANNUALLY. THERE ARE REASONS TO BELIEVE THAT WE ARE UNDERESTIMATING THE TASK BECAUSE WE ASSUMED CONSTANT SKILL LEVELS WITHIN A JOB AND NAEP MISSED THE INSTITUTIONAL AND STREET POPULATION.

WE CANNOT GET FROM HERE TO THERE WITH CURRENT METHODS. THE NEW TECHNOLOGIES THAT ARE PART OF THE CAUSE OF THE PROBLEM HAVE TO BECOME PART OF THE SOLUTION. FORTUNATELY, THOSE TECHNOLOGIES ARE AVAILABLE IF THE COMPLICATED SET OF INSTITUTIONS THAT TEACH ACCESS SKILLS TO YOUTH AND ADULTS CAN LEARN TO USE THEM.

WE HOPE THAT THE DEMONSTRATION PROJECTS ARE A STEP IN THE RIGHT DIRECTION. BUT THESE PROJECTS ARE ONLY THE FIRST IN MANY STEPS THAT HAVE TO BE TAKEN, WHICH INCLUDE:

LEARNING HOW TO BEST USE THE NEW TECHNOLOGY IN NON-SCHOOL SETTINGS; FOR EXAMPLE, ON THE JOB AND WITH THOSE ON WELFARE;

DEVELOPING MORE COURSE MATERIALS, INCLUDING, FOR EXAMPLE, A COURSE TO TEACH LITERACY AND ENGLISH TO NON-SPEAKERS OF ENGLISH WHO MAY BE ILLITERATE IN THEIR OWN LANGUAGE;

OBTAINING THE ECONOMIES OF SCALE POSSIBLE WITH NEW TECHNOLOGY BY, FOR EXAMPLE PURCHASING HARDWARE AT A DISCOUNT;

DEVELOPING A GOOD TEST OF WORKPLACE LITERACY (OR ACCESS SKILLS) THAT CAN BE USED TO EVALUATE ALTERNATIVE APPROACHES; AND ;

PROVIDING A MECHANISM TO HELP THE SYSTEM ADOPT EFFICIENTLY THE NEW TECHNOLOGIES.

IN ADDITION, THE SCHOOL SYSTEM HAS TO DO A BETTER JOB SUPPLYING YOUNG ADULTS TO THE SYSTEM.

WE HAVE A HISTORY OF CONTINUOUSLY INCREASING LITERACY REQUIREMENTS. INTERNATIONAL COMPETITION WILL ONLY MAKE THE CHALLENGE GREATER. AS THE WORLD ECONOMY IS INTEGRATED AMERICANS WILL HAVE TO COMPETE WITH THOSE WHO WOULD BE HAPPY TO ACCEPT THE U.S. MINIMUM WAGE OR LESS. AMERICANS WHO EXPECT TO EARN A LIVING WAGE WILL INCREASINGLY HAVE TO BE ABLE TO READ PROSE, UNDERSTAND DOCUMENTS AND DO ARITHMETIC.

IN CONCLUSION:

THERE IS A NEED TO INCREASE THE ACCESS SKILLS OF MILLIONS OF AMERICAN WORKERS ANNUALLY;

WE SORELY NEED BETTER MEASURES OF THE PROBLEM AND OF PROGRAM EFFECTIVENESS;

THERE SHOULD BE A MAJOR NATIONAL EFFORT TO WIDELY EMPLOY NEW TECHNOLOGIES THROUGHOUT THE ADULT TRAINING SYSTEM; AND

THE SCHOOLS HAVE TO DO A BETTER JOB.

## DEFINITION OF GED LANGUAGE SCALE

| evel | Language Development |
|---|---|
| 1 | Reading: Recognize meaning of 2,500 (two- or three-able ) words. Read at a rate of 95-120 words per minute.<br>Writing: Print simple sentences containing subject, verb, and object and series of numbers, names, and addresses. |
| 2 | Reading: Passive vocabulary of 5000 to 6000 words. Read at a rate of 190-215 words per minute. Read adventure stories and comic books, looking up unfamiliar words in dictionary for meaning, spelling and pronunciation.<br>Read instructions for assembling model cars and airplanes.<br>Writing: Write compound and complex sentences, using cursive style, proper end puncuation, and employing adjectives and adverbs. |
| 3 | Reading: Read a variety of novels, magazines, atlases, and encyclopedias.<br>Read safety rules, instructions in the use and maintenance of shop tools and equipment, and methods and procedures in mechanical drawing and layout work.<br>Writing: Write reports and essays with proper format, puncuation, spelling and grammar, using all parts of speech. |
| 4 | Reading: Read novels, poems, newspapers, periodicals, journals, manuals, dictionaries, thesauruses, and encyclopedias.<br>Writing: Prepare business letters, expositions, summaries, and reports, using prescribed format, and conforming to all rules of punctuation, grammar, diction, and style. |
| 5 | Same as Level 6. |
| 6 | Reading: Read literature, book and play reviews, scientific and technical journals, abstracts, financial reports, and legal documents.<br>Writing: Write novels, plays, editorials, journals, speeches, manuals, critiques, poetry, and songs. |

The Videodisc Monitor

covering application, innovation, and technology within interactive video, compact disc, and related technologies

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# US Department of Labor Promotes Literacy in the Work Place

On 14 July 1987, US Secretary of Labor William Brock announced grants totalling $4.27 million for 14 projects aimed at improving literacy skills among youth and adult workers throughout the country. Five of 14 the projects involve the use of interactive videodisc.

- A total of $655,000 has been allocated for three projects in Michigan:

**The United Auto Workers/Ford Motor Company National Development and Training Center** will develop a course on industrial mathematics *(Brian Elrod, PO Box 6002, Dearborn MI 48121, 313/337-3464)*;

**The UAW/General Motors Training Center** will produce a disc that addresses the question, "Are you ready for the year 2000?" It will take learners through a test and remedial education process *(Jim Titsworth, [illegible]450 Featherstone Road, Auburn Mill MI 48057, 313/377-2442)*; and

**Domino's Pizza Distribution Corporation** will develop a videodisc on the chemical process involved in making pizza dough *(Paul DeGrath, PO Box 970, Ann Arbor MI 48106, 313/663-6300)*.

- In Washington DC, $172,000 is going to the **Multi-cultural Career Intern Program (MCIP)** for a two-year project to evaluate the effectiveness of an interactive videodisc English language curriculum *(Marija Fine, 16th and Irving Streets NW, Washington DC 20010, 202/673-3551)*.

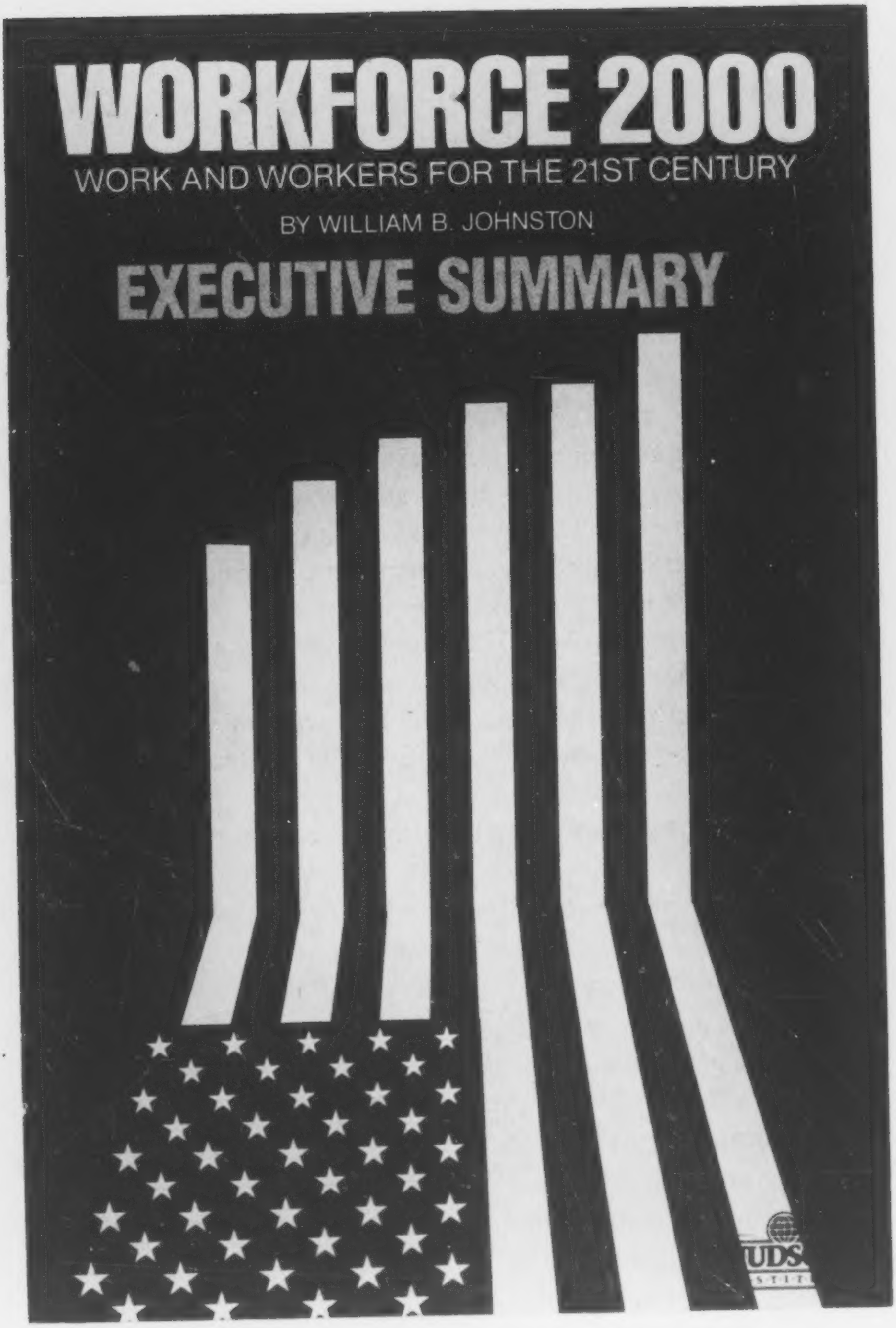
- Finally, $110,000 will go to the **New York City Consortium for Worker Literacy** (8 unions within the city) **and the City University of New York (CUNY)** to conduct on-site videodisc literacy training for city union families and small business employers.

This project will employ the IBM *Principals of the Alphabet Literacy System (Monitor 12/86 p3)* and *Skillpac* software *(Monitor 3/85 p3)* from Industrial Training Inc. *(CWL, Michael Frey, Room 620, 25 West 43rd Street, New York NY 10010, 516/747-8596; ITI, Arnold Packer, 111 22nd Street NW, Washington DC 20037, 202/342-9102)*.

These five projects were originally conceived by Arnold Packer of the Hudson Institute as part of an work-place literacy program. The goal is development of products for distribution throughout industry. On behalf of the Department of Labor, Packer will oversee the program and evaluate its effectiveness.

These and other literacy-related projects already underway are funded through the Department of Labor's Office of Strategic Planning and Policy Development (OSPPD), a division of the Employment and Training Administration (ETA) *(ETA, Lou Ann Burney, 200 Constitution Avenue NW, Washington DC 20210, 202/523-6871; Hudson Institute, Suite 200, 4401 Ford Avenue, Alexandria VA 22302, 703/824-2048)*.

Post Office Box 26 Falls Church VA 22046 USA Phone 703/241-1799



# WORKFORCE 2000

WORK AND WORKERS FOR THE 21ST CENTURY

BY WILLIAM B. JOHNSTON

## EXECUTIVE SUMMARY

# *WORKFORCE 2000* EXECUTIVE SUMMARY

The year 2000 will mark the end of what has been called the American century. Since 1900, the United States has become wealthy and powerful by exploiting the rapid changes taking place in technology, world trade, and the international political order. The last years of this century are certain to bring new developments in technology, international competition, demography, and other factors that will alter the nation's economic and social landscape. By the end of the next decade, the changes under way will produce an America that is in some ways unrecognizable from the one that existed only a few years ago.

Four key trends will shape the the last years of the twentieth century:

- *The American economy should grow at relatively healthy pace*, boosted by a rebound in U.S. exports, renewed productivity growth, and a strong world economy.
- Despite its international comeback, *U.S. manufacturing will be a much smaller share of the economy in the year 2000* than it is today. Service industries will create all of the new jobs, and most of the new wealth, over the next 13 years.
- *The workforce will grow slowly, becoming older, more female, and more disadvantaged*. Only 15 percent of the new entrants to the labor force over the next 13 years will be native white males, compared to 47 percent in that category today.
- *The new jobs in service industries will demand much higher skill levels* than the jobs of today. Very few new jobs will be created for those who cannot read, follow directions, and use mathematics. Ironically, the demographic trends in the workforce, coupled with the higher skill requirements of the economy, will lead to both higher and lower unemployment: more joblessness among the least-skilled and less among the most educationally advantaged.

These trends raise a number of important policy issues. If the United States is to continue to prosper—if the year 2000 is to mark the end of the *first* American century—policymakers must find ways to:

- *Stimulate Balanced World Growth*: To grow rapidly, the U.S. must pay less attention to its share of world trade and more to the growth of the economies of the other nations of the world, including those nations in Europe, Latin America, and Asia with whom the U.S. competes.
- *Accelerate Productivity Increases in Service Industries*: Prosperity will depend much more on how fast output per worker increases in health care, education, retailing, government, and other services than on gains in manufacturing.
- *Maintain the Dynamism of an Aging Workforce:* As the average age of American workers climbs toward 40, the nation must insure that its workforce and its institutions do not lose their adaptability and willingness to learn.
- *Reconcile the Conflicting Needs of Women, Work, and Families:* Three-fifths of all women over age 16 will be at work in the year 2000. Yet most current policies and institutions covering pay, fringe benefits, time away from work, pensions, welfare, and other issues were designed for a society in which men worked and women stayed home.
- *Integrate Black and Hispanic Workers Fully into the Economy:* The shrinking numbers of young people, the rapid pace of industrial change, and the ever-rising skill requirements of the emerging economy make the task of fully utilizing minority workers particularly urgent between now and 2000. Both cultural changes and education and training investments will be needed to create real equal employment opportunity.
- *Improve the Educational Preparation of All Workers:* As the economy grows more complex and more dependent on human capital, the standards set by the American education system must be raised.

## The U.S. Economy in the Year 2000

Because long-range forecasts are so uncertain, alternative scenarios are useful to help to bracket a range of possible outcomes. The three scenarios presented here are based not only on different rates of economic growth, but on different policy choices.

The baseline or "surprise-free" scenario reflects a modest improvement in the rate of growth that the nation experienced between 1970 and 1985. But despite improved trends in inflation and productivity, the U.S. economy does not return to the boom times of the

1950s and 1960s. Slow labor force growth is only partly offset by faster productivity gains, and imperfect coordination between the world's governments leads to only moderate rates of world growth. Economic turbulence causes periodic recessions in the U.S. that hold total growth to just under three percent per year.

In contrast, "world deflation" focuses on the possibility that a worldwide glut of labor and production capacity in food, minerals, and manufactured products could lead to a sustained price deflation and sluggish economic growth. World governments, chastened by a decade and a half of inflation, are slow to recognize the new economic realities and unwilling to undertake coordinated efforts to respond to them. The U.S., whose huge trade deficit has been the world's growth engine during the early 1980s, moves toward balance in its trade and fiscal accounts. Without U.S. stimulus, the rest of the world slides into a series of recessions that lead to increased protectionism and beggar-thy-neighbor trade, monetary, and fiscal policies that hold growth to only 1.6 percent per year over the period.

The third scenario, the "technology boom," outlines a powerful rebound in U.S. economic growth to levels that compare with the first two decades following World War II. Coordinated international monetary, fiscal, and trade policies succeed in smoothing world business cycles. Renewed public and private lending to developing nations and low oil prices trigger rapid growth in much of the Third World. In the U.S., high rates of investment in both physical and human capital, coupled with rapid productivity growth in services, low inflation, low resource prices, lower taxes, and less government intervention combine to produce a boom in productivity that causes the U.S. economy to surge ahead by 4 percent per year.

Table 1 summarizes the major assumptions and outcomes of the three scenarios. The table underscores several key points about the U.S. economy over the next 13 years:

- *U.S. Growth and World Growth are Tightly Linked:* The strong historical correlation between world growth and U.S. growth continues through the balance of the century. In the baseline forecast, the U.S. grows at about 2.9 percent, compared to 3.1 percent for the world.

## Table 1
## THE U.S. ECONOMY IN THE YEAR 2000

| | 1985 Level | 2000 (Three Scenarios) | | | | | |
|---|---|---|---|---|---|---|---|
| | | BASE | | LOW | | HIGH | |
| | | Level | Change* | Level | Change* | Level | Change* |
| World GDP (bill. 82$) | 7745 | 12204 | 3.1% | 9546 | 1.4% | 13057 | 3.5% |
| U.S. GNP (bill. 82$) | 3570 | 5463 | 2.9% | 4537 | 1.6% | 6431 | 4.0% |
| GNP Deflator (1982-100) | 111.7 | 182.4 | 3.3% | 117.8 | 0.4% | 196.4 | 3.8% |
| Employment (millions) | 107.2 | 131.0 | 1.3% | 122.4 | 0.9% | 139.9 | 1.8% |
| Manufacturing | 19.3 | 17.2 | -0.8% | 18.0 | -0.4% | 18.1 | -0.4% |
| Commercial & Other Services | 62.0 | 84.3 | 2.1% | 76.5 | 1.4% | 88.7 | 2.4% |
| Productivity (output/worker,82$) | 33.3 | 41.7 | 1.5% | 37.1 | 0.7% | 46.0 | 2.2% |
| Manufacturing | 40.4 | 71.4 | 3.9% | 58.0 | 2.5% | 81.3 | 4.8% |
| Commercial & Other Services | 29.9 | 34.1 | 0.9% | 30.4 | 0.1% | 38.2 | 1.6% |
| Fed. Surplus (bill. curr.$) | -200.8 | -110.0 | — | -170.1 | — | -40.7 | — |
| Curr. Acct. Bal. (bill. curr.$) | -116.8 | 14.0 | — | 12.5 | — | 32.6 | — |
| Disp. Income Per Capita (thou. 82$) | 10.5 | 13.5 | 1.7% | 11.5 | 0.6% | 15.6 | 2.7% |

*Average Annual Gain
Source: Hudson Institute.

- *U.S. Manufacturing Employment Declines While Services Grow:* Despite strong export growth and substantial production increases, manufacturing jobs decline in all scenarios. Whether the U.S. and world economies are booming in an open trading environment or growing slowly in an atmosphere of protectionism and nationalistic trading patterns, U.S. manufacturing jobs decrease. No pattern of growth enables manufacturing employment to return to the peak of 1979.

In addition to the decline in employment, manufacturing will decline as a share of GNP, measured in current dollars. Where manufacturing produced some 30 percent of all goods and services in 1955, and 21 percent in 1985, its share will drop to less than 17 percent by 2000.

The shift to services will bring with it broad changes in the location, hours, and structure of work. Service jobs tend to be located where and when the customer wants them, rather than centralized as are manufacturing jobs. Partly as a result, the typical workplace in the future will have fewer people, and the average workweek will become shorter with more people employed part-time.

The shift to services will also have great impacts on the economy and its employees. For example, the business cycle should moderate, since service industry growth is less volatile than manufacturing. Wages may become less equally distributed, since service jobs tend have more high and low earners, and fewer in the middle. Economic growth may be harder to achieve, because productivity gains are lower in most service industries.

Most importantly, the shift to services means that efforts to preserve or develop the nation's manufacturing base are swimming upstream against a powerful tide. Productivity gains, not Japanese competition, will gradually eliminate manufacturing jobs. Lower prices (relative to services) will gradually shrink manufacturing's share of the economy. Just as agriculture lost its central role in the American economy at the beginning of the century, so will manufacturing lose economic importance as the century draws to a close. Those who fail to recognize these inevitable trends—for example, states that try to capture new factories to boost their local economies or the Congress, which is threatening to legislate trade barriers to hang on to U.S. manufacturing jobs—will miss the most important opportunities of the future.

- *The Key to Domestic Economic Growth is a Rebound in Productivity, Particularly in Services:* Throughout the 1970s and early 1980s, the United States managed to sustain a rising standard of living by increasing the number of people at work and by borrowing from abroad and from the future. These props under the nation's consumption will reach their limits before the end of the century: there will be relatively fewer young people and homemakers who will enter the workforce during the 1990s, and the burden of consumer, government, and international debt cannot be expanded indefinitely. If the U.S. economy is to grow at its historic 3 percent per year average, the nation must substantially increase its productivity.

Output per worker during the 1990s is projected to double, from 0.7 percent per year to 1.5 percent, the same rate as the 1960s. A combination of older, more stable, and better-educated workers, and higher rates of investment will support this improvement. Better productivity performance by the service industries will be particularly important. Output per worker in manufacturing continues to show strong gains, but the most important productivity improvements come in services, where output per worker climbs from -0.2 percent over the last 15 years to +0.9 percent per year from 1985 to 2000. The keys to such advances will be more competition in traditionally noncompetitive industries such as education, health care, and government services, coupled with the application of advanced technologies to deliver more automated business, government, and personal services.

- *U.S. Trade Accounts Move Toward Balance:* Although the different scenarios show widely dispersed rates of growth of imports and exports, the U.S. current account balance improves under all conditions. This is due both to the devaluation of the dollar that has already taken place against other currencies and to improving productivity in manufacturing industries. Under the baseline scenario, by the year 2000 the U.S. current account balance is in the black by some $14 billion.

- *The U.S. Budget Deficit Declines:* Along with the improvement in the trade deficit comes a decline in the budget deficit. Even without any major tax increases, growth in GNP and a large surplus in the Social Security Trust Fund cut the federal budget deficit to $18 billion by 1995.

- *Inflation Moderates:* Under the baseline scenario, prices increase by an average of 3.3 percent per year over the 1985–2000 period. The excess world capacity in labor, goods, and services prevents inflation from resuming its pace of the 1970s.

- *Unemployment Remains Stubbornly High:* The baseline scenario forecasts unemployment at just over 7 percent in the year 2000, despite the relatively slow growth of the labor force projected over the period. In the deflation scenario, unemployment climbs above 9 percent, while even in the boom scenario unemployment is reduced only to 5.9 percent.
- *Disposable Income Increases Moderately:* Disposable personal income per person, the best single measure of how rapidly society is improving its standard of living, grows by 1.7 percent per year under the baseline scenario, almost precisely the rate at which it grew between 1970 and 1985.

## Workers and Jobs in the Year 2000

Changes in the economy will be matched by changes in the workforce and the jobs it will perform. Five demographic facts will be most important:

- *The population and the workforce will grow more slowly than at any time since the 1930s:* Population growth, which was climbing at almost 1.9 percent per year in the 1950s, will slump to only 0.7 percent per year by 2000; the labor force, which exploded by 2.9 percent per year in the 1970s, will be expanding by only 1 percent annually in the 1990s. These slow growth rates will tend to slow down the nation's economic expansion and will shift the economy more toward income-sensitive products and services (e.g., luxury goods and convenience services). It may also tighten labor markets and force employers to use more capital-intensive production systems.
- *The average age of the population and the workforce will rise, and the pool of young workers entering the labor market will shrink:* As the baby boom ages, and the baby bust enters the workforce, the average age of the workforce will climb from 36 today to 39 by the year 2000. The number of young workers age 16–24 will drop by almost 2 million, or 8 percent. This decline in young people in the labor force will have both positive and negative impacts. On the one hand, the older workforce will be more experienced, stable, and reliable. The reverse side of this stability will be a lower level of adaptability. Older workers, for example, are less likely to move, to change occupations, or to undertake retraining than younger

ones. Companies that have grown by adding large numbers of flexible, lower-paid young workers will find such workers in short supply in the 1990s.

- *More women will enter the workforce:* Almost two-thirds of the new entrants into the workforce between now and the year 2000 will be women, and 61 percent of all women of working age are expected to have jobs by the year 2000. Women will still be concentrated in jobs that pay less than men's jobs, but they will be rapidly entering many higher-paying professional and technical fields. In response to the continued feminization of work, the convenience industries will boom, with "instant" products and "delivered-to-the-door" service becoming common throughout the economy. Demands for day care and for more time off from work for pregnancy leave and child-rearing duties will certainly increase, as will interest in part-time, flexible, and stay-at-home jobs.

- *Minorities will be a larger share of new entrants into the labor force:* Non-whites will make up 29 percent of the new entrants into the labor force between now and the year 2000, twice their current share of the workforce. Although this large share of a more slowly growing workforce might be expected to improve the opportunities for these workers, the concentration of blacks in declining central cities and slowly growing occupations makes this sanguine outlook doubtful.

- *Immigrants will represent the largest share of the increase in the population and the workforce since the first World War:* Even with the new immigration law, approximately 600,000 legal and illegal immigrants are projected to enter the United States annually throughout the balance of the century. Two-thirds or more of immigrants of working age are likely to join the labor force. In the South and West where these workers are concentrated, they are likely to reshape local economies dramatically, promoting faster economic growth and labor surpluses.

In combination, these demographic changes will mean that the new workers entering the workforce between now and the year 2000 will be much different from those who people it today. Non-whites, women, and immigrants will make up more than five-sixths of the net additions to the workforce between now and the year 2000, though they make up only about half of it today:

| | 1985 Labor Force | Net New Workers, 1985–2000 |
|---|---|---|
| Total | 115,461,000 | 25,000,000 |
| Native White Men | 47% | 15% |
| Native White Women | 36% | 42% |
| Native Non-white Men | 5% | 7% |
| Native Non-white Women | 5% | 13% |
| Immigrant Men | 4% | 13% |
| Immigrant Women | 3% | 9% |

Source: Hudson Institute.

Juxtaposed with these changes in the composition of the workforce will be rapid changes in the nature of the job market. The fastest-growing jobs will be in professional, technical, and sales fields requiring the highest education and skill levels. Of the fastest-growing job categories, all but one, service occupations, require more than the median level of education for all jobs. Of those growing more slowly than average, not one requires more than the median education.

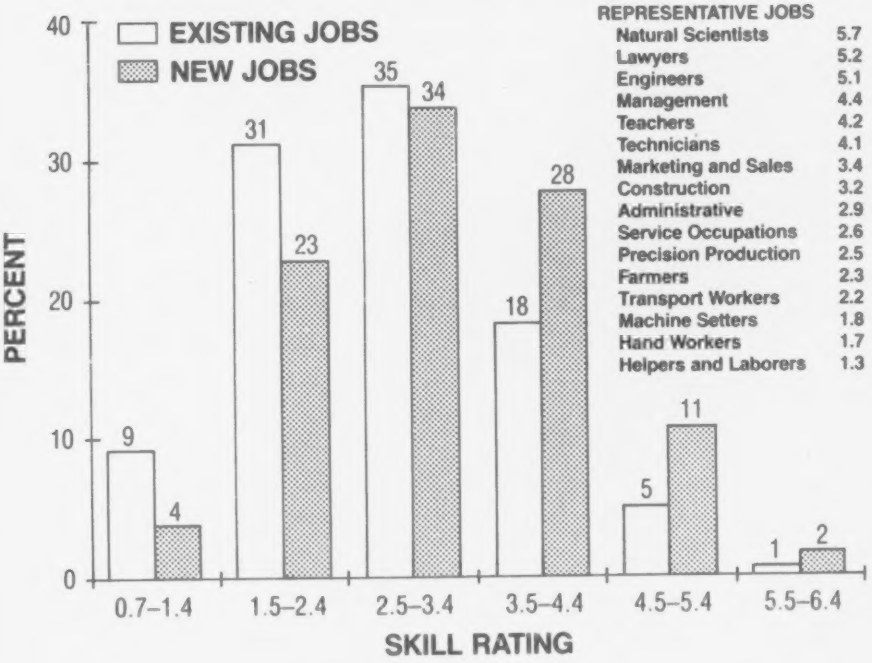
Ranking jobs according to skills, rather than education, illustrates the rising requirements even more dramatically. When jobs are given numerical ratings according to the math, language, and reasoning skills they require, only twenty-seven percent of all new jobs fall into the lowest two skill categories, while 40 percent of current jobs require these limited skills. By contrast, 41 percent of new jobs are in the three highest skill groups, compared to only 24 percent of current jobs (see Figure 1).The changes ahead in the job market will affect different groups in the society in different ways. While young whites may find their jobs prospects improving, for black men and Hispanics the job market will be particularly difficult (see Figure 2). In contrast to their rising share of the new entrants into the labor force, black men will hold a declining fraction of all jobs if they simply retain existing shares of various occupations. Black women, on the other hand, will hold a rising fraction of all jobs, but this increase will be less than needed to offset their growing share of the workforce.

## Six Policy Challenges

These trends in the emerging economy suggest six policy issues that deserve the greatest attention:

*Stimulating World Growth:* For more than a decade, American policymakers have been concerned with the U.S. balance of trade, the nation's deteriorating ability to compete with other nations, and the

Figure 1
LOW SKILLED JOBS ARE DECLINING



| REPRESENTATIVE JOBS | |
|---|---|
| Natural Scientists | 5.7 |
| Lawyers | 5.2 |
| Engineers | 5.1 |
| Management | 4.4 |
| Teachers | 4.2 |
| Technicians | 4.1 |
| Marketing and Sales | 3.4 |
| Construction | 3.2 |
| Administrative | 2.9 |
| Service Occupations | 2.6 |
| Precision Production | 2.5 |
| Farmers | 2.3 |
| Transport Workers | 2.2 |
| Machine Setters | 1.8 |
| Hand Workers | 1.7 |
| Helpers and Laborers | 1.3 |

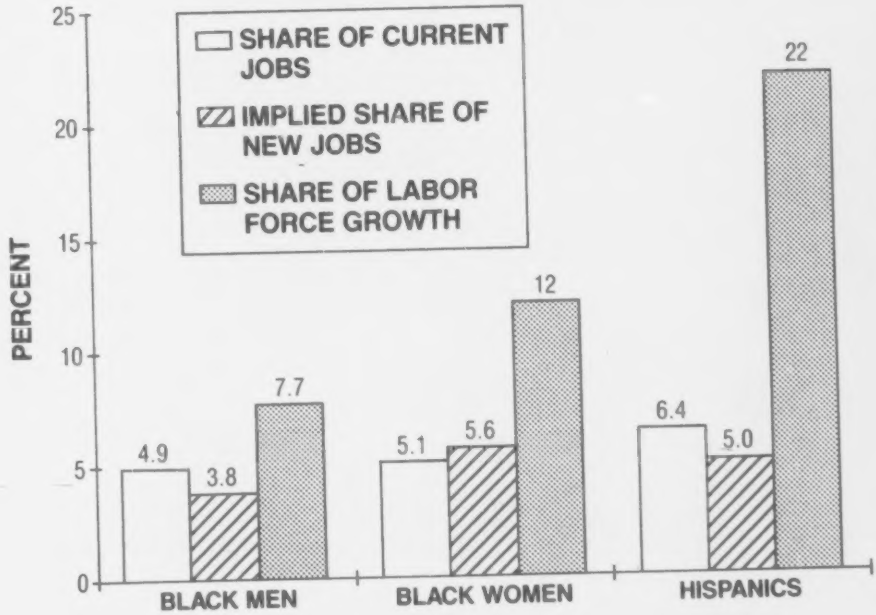
Source: Hudson Institute.

presumed unfairness of the trading policies of other countries. These issues, while important, are not the most critical international concerns facing the nation. U.S. prosperity between now and the end of the century will depend primarily on how fast the world economy grows and on how rapidly domestic productivity increases. It will depend very little on how open or closed the Japanese market is to American goods, or even on how soon U.S. trade accounts return to balance.

In particular, it is important for the United States, along with other industrial countries, to find ways to restimulate growth in the developing world. These nations that are still on the threshold of industrialization have the greatest opportunities for rapid growth that can stimulate the world and U.S. economies.

At the same time, efforts to improve U.S. competitiveness must always be undertaken within the context of strengthening the world economy. The envy and anger that many in the United States feel toward Japan's success should not blind policymakers to the reality

Figure 2
BLACK MEN AND HISPANICS FACE THE GREATEST DIFFICULTIES IN THE EMERGING JOB MARKET



that as Japan (and every other nation of the world) grows richer, the United States will benefit. Just as it is easier for a company to prosper in a rapidly-growing market than to capture market share in a shrinking one, so it will be easier for the United States to prosper in rapidly-growing world markets than in static or shrinking o

Of course, the U.S. *share* of world growth is also important. But most of the steps that must be taken taken to improve U.S. competitiveness have little to do with changing the behavior of the Japanese or the Koreans. Instead, they involve changes in the propensity of Americans to borrow and spend rather than to save, major improvements in the educational preparation of large numbers of prospective workers, and reforms in the practices and laws that encourage America's best and brightest to provide legal advice in corporate takeovers rather than to build companies that exploit new technologies.

*Improving Productivity in Service Industries:* Manufacturing still controls the imagination, the statistics, and the policies of the nation, even though it now represents a small and shrinking fraction of national employment and output. The nation's mental image of progress continues to be one in which manufacturing plants produce more cars, computers, and carpets per hour. But services are a far larger segment of the economy and the sector whose productivity has actually declined in recent years. These industries—health, education, trade, finance, insurance, real estate, and government—must be the targets of government efforts to improve productivity.

To realize this objective, new efforts must be made to tear down the barriers to competition in many of the service industries where competition does not now exist. At the same time, new investments must be made in research and development targeted toward improving service industry productivity.

In education, for example, competition is needed at the elementary and secondary school level, where the monopoly position of the public schools has stifled innovation. In order to provide a benchmark for measuring gains, national standards and nationally comparable tests are essential. At the same time, new investments are needed in educational technology, in particular to develop a large base of public domain software to teach math, reading, science, and more advanced courses.

In health care, the steps taken to inject competition into the system must be extended, while new investments are made in productivity-enhancing technologies such as automated diagnostics. In a range of other government services, privatization and competition promise to provide great productivity gains.

*Improving the Dynamism of an Aging Workforce:* At the same time that the workforce is aging and becoming less willing to relocate, retrain, or change occupations, the economy is demanding more flexibility and dynamism. Despite general recognition of the importance of a flexible workforce, many national policies fail to promote this end.

For example, the nation's pension system is one in which most retirement benefits are tied to the job. In many cases, employees receive no benefits if they leave after a few years, and, by the time they reach mid-career, they would suffer major benefit losses if they switched employers. The current system tends to inhibit workers from changing jobs and to discourage companies from hiring older workers.

Similarly, the unemployment insurance system has been largely used to provide income support to workers who are laid off. Relatively little has been done to make the system one that promotes relocation, retraining, and job search.

Although worker retraining has become a catchphrase, and the federal government and private industry now spend billions of dollars for retraining, there is still no national consensus that all workers should expect to learn new skills over the course of their worklives. Except in a few companies, training is confined mostly to the top and bottom ranks of employees, with little systematic effort to insure that all workers are constantly reinvesting in themselves to avoid obsolescence. National policies that promote such corporate and individual attitudes toward retraining should be backed up with changes in the tax code to encourage lifelong education.

Finally, the goal of promoting dynamism requires reconsideration of national policies on immigration. The most careful studies of legal immigrants have concluded that they are a valuable asset to the nation and help to stimulate economic growth and change. The need for more, better-educated immigrants to help staff a growing economy will increase as the growth of the population and labor force slows in the 1990s. Despite the political and social objections, the nation should begin a program of gradually increasing its quotas and opening its doors to more individuals desiring to enter the country.

*Reconciling the Demands of Women, Work, and Families:* America has become a society in which everyone is expected to work—including women with young children. But many of society's institutions were designed during an era of male breadwinners and female homemakers.

What is needed is a thoroughgoing reform of the institutions and policies that govern the workplace, to insure that women can participate fully in the economy, and that men and women have the time and resources needed to invest in their children. For example, some formula is needed to provide parents with more time away from work. Flexible hours, the use of sick leave to care for children, more part-time work, pregnancy leaves for mothers and fathers, and other innovations are expensive, but ultimately necessary changes in the structure of work that will accommodate the combination of work and family life. Similarly, the need for high-quality day care has not yet been fully addressed. Government and private mechanisms to provide for the care of the children of working parents need further development.

The increase in the numbers of working women also has implications for the current debate over welfare reform. The current stay-at-home welfare program was designed long before most women worked. Now that a majority of nonwelfare women with young children work, it no longer seems cruel to require welfare mothers to do so. The current system should be replaced with one that mandates work for all able-bodied mothers (except for those caring for infants), while providing training, day care, and job counseling.

*Integrating Blacks and Hispanics Fully into the Workforce:* For minority workers, the changes in the nation's demography and economy during the 1990s represent both a great risk and a great opportunity. With fewer new young workers entering the workforce, employers will be hungry for qualified people and more willing to offer jobs and training to those they have traditionally ignored. At the same time, however, the types of jobs being created by the economy will demand much higher levels of skill than the jobs that exist today. Minority workers are not only less likely to have had satisfactory schooling and on-the-job training, they may have language, attitude, and cultural problems that prevent them from taking advantage of the jobs that will exist.

If the policies and employment patterns of the present continue, it is likely that the demographic opportunity of the 1990s will be missed and that by the year 2000 the problems of minority unemployment, crime, and dependency will be worse than they are today. Without substantial adjustments, blacks and Hispanics will have a smaller fraction of the jobs of the year 2000 than they have today, while their share of those seeking work will have risen.

Each year of delay in seriously and successfully attacking this problem makes it more difficult. Not only will the jobs become more sophisticated and demanding, but the numbers of new workers entering the workforce will begin to increase after 1993. Now is the time to begin investing in education, training, and other assistance. These investments will be needed, not only to insure that employers have a qualified workforce in the years after 2000, but to finally deliver the equality of opportunity that has been America's great unfulfilled promise.

*Improving Workers' Education and Skills:* As the economies of developed nations move further into the post-industrial era, human capital plays an ever-more-important role in their progress. As the society becomes more complex, the amount of education and knowledge needed to make a productive contribution to the economy becomes greater. A century ago, a high school education was thought to be superfluous for factory workers and a college degree was the mark of an academic or a lawyer. Between now and the year 2000, for the first time in history, a majority of all new jobs will require postsecondary education.

Education and training are the primary systems by which the human capital of a nation is preserved and increased. The speed and efficiency with which these education systems transmit knowledge governs the rate at which human capital can be developed. Even more than such closely-watched indicators as the rate of investment in plant and equipment, human capital formation plays a direct role in how fast the economy can grow.

If the economy is to grow rapidly and American companies are to reassert their world leadership, the educational standards that have been established in the nation's schools must be raised dramatically. Put simply, students must go to school longer, study more, and pass more difficult tests covering more advanced subject matter. There is no excuse for vocational programs that "warehouse" students who perform poorly in academic subjects or for diplomas that register nothing more than years of school attendance. From an economic standpoint, higher standards in the schools are the equivalent of competitiveness internationally.

Promoting world growth, boosting service industry productivity, stimulating a more flexible workforce, providing for the needs of working families with children, bringing minority workers into the workforce, and raising educational standards are not the only items on the nation's agenda between now and the year 2000. But they are certainly among the most important.

More critically, they are issues that will not go away by themselves. If nothing unusual is done to focus national attention and action on these challenges, they are likely to be still unresolved at the beginning of the next century. By addressing them now, the nation's decisionmakers can help to assure that the economy and the workforce fulfil their potential to make the year 2000 the beginning of the next American century.

Representative SCHEUER. Thank you very much.

We've been joined by Ms. Lauren Resnick, professor of psychology and education at the University of Pittsburgh.

Professor Resnick served last year as president of the distinguished American Educational Research Association, and she is recognized for her expertise on higher order thinking.

We're very happy to have you here, Professor Resnick.

Okay. Mr. Foster, let's here from you. Take your 8 or 10 minutes, then we'll move ahead.

## STATEMENT OF BADI G. FOSTER, PRESIDENT, AETNA INSTITUTE FOR CORPORATE EDUCATION, AETNA LIFE & CASUALTY CO.

Mr. FOSTER. Thank you, Mr. Chairman. I'm very pleased to be here. My general counsel tells me to say that my comments are not necessarily those of Aetna Life & Casualty, so I don't get into too much trouble.

I'm an educator by training and disposition, so the issue of the new basics is something that has concerned me for a number of years.

As a black American coming out of the south side of Chicago, I'm increasingly concerned in terms of the quality of education and the growing disparity between the class structure and opportunties in this society.

So it seems to me that the importance of your hearing goes beyond the issue of competitiveness. It also begins to turn on questions of social justice, which has plagued us for a number of years.

Very briefly, I left Harvard to come to Aetna to start the Aetna Institute for Corporate Education. We offer 150 courses in management education, general skills, and information systems.

Representative SCHEUER. Excuse me. How does it go beyond literacy? You said it went beyond literacy, but you didn't say how.

Mr. FOSTER. The whole question of competitiveness, literacy, it goes to the issues of social justice. I think what you're concerned with here is not only the question of increased productivity of our economy, but it goes to the very heart of how do we undo the growing trends toward an underclass.

If I look at my neighbors on the south side of Chicago today, they're no different than on the north side of Hartford. There are thousands of people locked into a situation from which there doesn't appear to be much escape, unless we find some way to provide them the type of education and training we've been discussing.

Representative SCHEUER. Absolutely. We think that if we can give them literacy and cognitive skills and make them effective players in the work force, it will be an enormously liberating factor for them. This will enable them to almost explode into effective places in our society that will provide satisfying, rewarding, independent lives. No question about it.

The whole existence of an American underclass constantly replenished by next year's graduating class of functional illiterates is an abomination. It's a shame. It's a tragedy of American life.

So we are as eager to eliminate that underclass as we are to improve the quality of the American work force. One is an economic imperative and the other is a sociological and political imperative that goes to the heart of the social contract.

So we're totally as one.

Mr. FOSTER. I underscore the importance of what you're doing here for a variety of reasons. In essence, I came to Aetna to create an educational institution that serves 20,000 students a year that is, Aetna employees.

We have another 6,000 employees in our tuition assistance programs. The point I'm making is that the company has made an enormous commitment to education and training because we see it as absolutely critical to the current performance of the company and certainly our future.

We spend roughly about $35 million a year on education and training. That does not count the salaries of employees while they're being trained, nor does it factor in opportunity costs.

I'd like to focus on three sets of new basic skills that I think bear your concern and attention.

The first really has to do with workplace functional illiteracy. The second has to do with what we might call computer literacy. The third has to do with the way in which we educate, train, and develop first-line managers.

I'll mention those briefly and then I'll have some suggestions about expectations we might have of the various players in the education and training game, the elementary and secondary schools, colleges and corporations.

Why is this functional illiteracy issue so critical today?

I guess I would say that we've known for years it was going to be a problem. Why, all of a sudden, is it surfacing high on the national agenda?

I would guess it's largely because companies like Aetna for the first time are having to dip into a labor pool that before we could avoid. And when you dip into a labor pool, you see the characteristics that my colleagues will describe.

Second, the amount of money that we have to spend in remediation increasingly becomes an expense that is very hard to carry during very competitive times in our business.

And, last, it's a concern because we see the lack of mobility within the corporation. It's one thing to bring someone into an entry level job, but if, in fact, they do not have the requisite competency, their capacity to move within the organization is limited. And there you create enormous management and labor problems.

Now, much is talked about computer literacy. Why is it so important to us?

The nature of our business depends to a large extent on how quickly we can plan, build, run, and control information systems. What we're discovering is that it's easier to develop the software and the hardware. It's the application of that technology into specific jobs that is really becoming the key.

There we really focus on the human factor, not so much the technical factor. It's true that when you change the means of production, you necessarily change all social relationships. When you look at an organization like Aetna, decentralizing its information systems, and changing every single job, you discover the incapacity of individuals to absorb that kind of change in terms of their daily routine, their notions of creativity or new applications of technology. You begin to see if we don't have, if you will, competent people in terms of computer literacy, then we will not be able to take advantage of the technology in terms of its application to jobs.

The third critical area really has to do with people skills. What kind of continuing education and training do we provide for first-line managers?

In our organizations, increasingly, these managers are being asked to manage an increasingly diverse work force, not just simply diversity in terms of ethnicity, race or gender, but a work force that has increasingly different sets of values about work and collaboration.

So we now need people who in fact can manage that diversity, who understand unity, yet diversity. We need first-line managers who, in fact, manage the unintended consequences of the impact of technology.

Most importantly, we need people who somehow or another can build teamwork because the nature of our job increasingly depends on that kind of interaction, that teamwork.

Now, if those are the clusters of skills, what expectations should we have for public schools, colleges, and corporations?

I would urge public schools and State educational authorities to follow the example of Connecticut where a group of leading citizens were put together and formulated a common core of learning, the expected outcomes of a high school education in the State of Connecticut.

That common core of learning is then used as a vehicle to get local districts to ask themselves to what extent are you producing students that can meet these outcomes? This is, indeed, what the public would expect.

Second, colleges and universities would define the ways by which, in the curriculum, they could better integrate notions of human resource management and technology into their curriculum.

I think it would be very helpful, to follow the lead of Northwestern Community College in Connecticut or MIT by requiring those people majoring in technology to take courses in the humanities, the social sciences, where they might learn about how better to resolve the conundrum that C.P. Snow described many years about two cultures—the technical and the humanistic.

In terms of the universities, we in the corporate world increasingly need the knowledge that is generated in universities. But what's happened over the last 40 years is that universities have become decoupled from the needs of business and industry.

I'm not arguing that they should be handmaidens, but if you take a look at the kind of activity in colleges and universities, where professors are rewarded more for, quote, "creating new knowledge" and less for transmitting it, if you look at the way in which continuing education of the kind that we need is always on the periphery, despite the fact that the typical student today is an adult student working, full time, one must ask why higher education continues to focus its primary efforts on 18 year olds going to school full time? What might we do to try to close the gap and link the resources of education with the kinds of skills that I talked about?

First of all, obviously, even in these times of Gramm-Rudman, there must be more dollars focused on urban education. It seems to me increased funding ought to be linked to the kinds of outcomes that Mr. Barton will speak to.

To the extent that urban districts can produce results along those ventures is the extent to which they deserve the increased funding, given the complex problems they confront.

Second, I think, at the Federal level, the fund for the improvement of postsecondary education could fund projects to provide more integration in the curriculum that I talked about to bring technology and the humanities together.

There exists no national clearinghouse on best practices of adult education in the corporate sector. We currently have 9 educational research clearinghouses, 11 national centers of excellence, 6 regional educational labs, but nothing for those of us who need the kind of advice and guidance as we wrestle with workplace literacy and education and training.

Last, I would suggest two things. Much more can be done by using organizations such as the National Technical University, which allows the dissemination of education and training at reasonable cost to a wide audience.

And, last, again, in the climate of taxes, whether it's at the Federal or State level, it seems to me that there ought to be some tax credit available for those businesses, large and small, who invest in the kind of education and training that's going to be necessary to address the new basics.

There's a debate as to whether that should be a State initiative or a Federal initiative.

I would close simply on this point: This is a national problem, that those States who can least afford such tax credits are probably those States where we have the greatest need for that kind of education and training.

On that note, I thank you.

[The prepared statement of Mr. Foster follows:]

## PREPARED STATEMENT OF BADI G. FOSTER

Good morning, Mr. Chairman and members of the Committee. I'm pleased to be here. I have been invited by Congressman Scheuer to comment on the human resources dimension of the economic competitiveness issue, from the perspective of an educator working within a major corporation. While I welcome the opportunity to present a corporate viewpoint, I should say that the views I express are my own, and do not necessarily reflect the official views of the Aetna Life and Casualty Company.

I am an educator by training, experience, and disposition. After several years as a university professor and administrator, I had the good fortune to participate in the creation of the Aetna Institute for Corporate Education - an institution, I am proud to say, that is now regarded as among the most successful organizations of its type in the private sector.

Briefly, the Institute offers over 150 courses and programs in executive, management, and supervisory education; general skills development; and information systems education. Each year, some 20,000 Aetna employees - almost one-half of our total workforce - take advantage of these offerings, either by participating in traditional classroom instruction in our Hartford home office facility, by pursuing self-paced education at their worksite, or by enrolling in a direct broadcast telecourse. In addition, the Institute administers the Company's employee tuition assistance and continuing professional education programs. Last year, nearly 6,000 employees took advantage of these opportunities. Finally, through special arrangements with a number of area colleges and universities, our home office employees can pursue studies leading to the General Equivalency Diploma, Associate and Bachelor of Arts Degrees, and the Masters Degree in Business Administration during evening hours at our facility.

I should note that the Institute is a corporate function. Each of our major operating divisions maintain their own education and training functions. They are responsible for career-related education in such areas as underwriting, marketing, claim settlement and engineering. In total, the Aetna Life and Casualty invests about $35 million each year in formal employee development activities. This figure does not include the compensation paid to employees while they are participating in these activities.

I would like to share some observations about the changing employee skill requirements in our industry. While these observations may not directly pertain to circumstances common to other U.S. industries, or even to smaller firms within the insurance/financial services industry, there are likely to be enough similarities to permit a meaningful degree of generalization. Specifically, I will direct my comments to three areas that I think will be among the most crucial with respect to the viability and competitiveness of our industry. I will then suggest a number of expectations we might properly establish for each of our major education and training institutions, i.e. elementary and secondary education, colleges and universities, and the corporate sector. I will conclude with a small number of program and policy proposals that might help these institutions contribute in a more significant way to the resolution of the human resources development issues before us.

I do not think we can talk about skill requirements without mentioning the adult literacy issue.

It is interesting how this problem has surfaced among the handful of top items on the social welfare and "human capital" agendas. We all know that it has been a "back burner" issue for some time, so I think it would be instructive to very briefly consider why it has finally moved to the forefront.

I am sure the explanation lies, at least in part, in the very significant changes in the labor market that have occurred during this period of economic growth. Though I realize this prosperity has been somewhat uneven regionally, many areas of this country are experiencing virtual "full employment" situations. The unemployment rate in most New

England labor market areas, for example, has been under four percent for over a year now. In places like Metropolitan Hartford it has been closer to three percent.

In the late 1970's and early 1980's, the modest growth in the net demand for unskilled or semi-skilled workers was met largely by mature women who were either entering or re-entering the labor force. We never really recruited from the ranks of the so-called "marginal" or " contingent" labor force, which includes the less educated male adults and inexperienced youth. During this recovery, of course, companies like Aetna are recruiting from these very labor pools. And what we are finding in terms of "presenting skills" has been discouraging, if not alarming. This is especially true of young adults from urban areas who as teens spent much of their time either unemployed or out of the labor force. In certain respects, I guess we are now reaping what we have sown; those of us who thought that the "youth unemployment problem" would disappear when the economy improved were clearly wrong. It has disappeared only in the ledgers of the statisticians who keep track of such things. It is all too apparent in the recruiting offices of major firms across America.

The second factor that helps to explain why the literacy issue has moved into currency is that the nature and scope of the problem is now being characterized in a way that can be readily understood. Here I am referring, for example, to the recent study by the National Assessment of Educational Progress on functional literacy skills among 19-25 year olds. I strongly urge those of you who have not yet reviewed the NAEP report, Literacy: Profiles of America's Young Adults, to do so. The study takes the relatively abstract concept "functional literacy" and operationalizes it in a meaningful way. Three dimensions of literacy are identified: document, prose, and quantitative. The scales used to measure an individual's level of functioning along each of these dimensions are drawn from everyday experiences. When you note, for example, that 40 percent of the high school graduates in the sample could not correctly identify and/or accurately express the main idea in a newspaper article, you can not readily mistake the message.

So the problem is a very real one. It especially affects companies like Aetna where basic literacy is a requirement of competent performance in the vast majority of jobs. Our productivity is adversely affected and we must absorb the cost of remediation. Moreover, the individuals who lack these basic skills will have few real opportunities for advancement within the Company.

The second area where we are experiencing changing skill requirements is electronic data processing. This is an area that is of a great concern to those of us in the insurance and financial services industries.

The vast majority of the basic products and services marketed by the thousands of different insurance and financial services companies are, in essence, quite similar to one another. Add to that the fact that we all operate in the same regulatory environments. Given this reality, some of us have chosen to differentiate our products on the basis of customer service. Two of the key ingredients of customer service are timeliness and accuracy: how quickly and accurately we can do such things as provide a quote, add an endorsement, respond to a claim, or answer a coverage or rate inquiry. All else equal, this translates into a question of how well we can build, run, and maintain our data processing systems.

The general trend in our industry is to move many data processing functions out of the home office computer centers, and into the field offices and agencies - closer to where the business itself is processed. This trend has a number of important implications for both the composition of the firm's workforce, and the characteristics of individual jobs. But I think that we must be very careful in assessing these implications. In particular, we must avoid oversimplifying the skill requirements attending these changes. For example, there is a very common tendancy to overemphasize the technical skills associated with task performance, e.g. manipulating a computer keyboard, creating lines of code, using a given piece of applications software, etc. Clearly, these are much needed skills. But these are also skills that are relatively easy to develop through well designed company training programs.

Far more worrisome are the skills and abilities that are not purely technical in nature. These requirements were very capably outlined in an article by Paul Adler that appeared in a recent edition of California Management Review. Referring to the changing features of clerical work in banks, Dr. Adler notes the following: (1.) the traditional importance of "responsiblilty for effort" is being replaced by "responsibility for results" - for the integrity of the process; (2.) the relationship between tasks, and between tasks and goals is becoming increasingly abstract; and (3.) components of complex systems are becoming more and more interdependent. The message here is that our clerical and administrative employees, as well as the "end-user", are going to have to be able to think critically, discern relationships, solve abstract problems, and communicate effectively. We are talking about abilities that are quite different than the kind of "computer literacy" skills that we often hear about.

While on the subject of the so-called "high tech" skills, I think it is interesting to note that the central message of one of today's leading automation experts, James Martin, has more to do with people skills than technical skills. And the latest approaches to systems analysis and design focus on the human rather than the technical side of the user/systems interface. The lesson here is that technical expertise is becoming a necessary, but not sufficient requisite to our ability to design, build, and maintain quality systems.

This notion of "people skills" leads to the third and final skill requirement I want to address here today.

There is a real need to upgrade the knowledge and skills of our supervisors and first-line managers. Let me suggest three reasons for this.

First, as our workforce becomes more diverse - not only in terms of ethnicity and gender, but also with respect to work related values and dispositions - the ability of our supervisors to accommodate the needs and orientations of their subordinates will be increasingly tested. But they will have to go beyond mere accommodation to full enlistment of employees' talents in the kinds of team-based work projects that will be much more common in the future. In addition, they will have to mediate the impact of technological change by managing the implications that I mentioned earlier. Truly competent supervisors have always been in short supply. My concern is that without more systemmatic attention to the way we prepare supervisors and provide for their on-going development, they will become quite scarce.

In my judgement, we will be unable to adequately address the skill needs I've outlined here - and I have made no mention of requirements more common to other industries - without substantial improvements in the productivity of our education and training institutions. This includes elementary and secondary schools, colleges and universities, and corporate training departments.

I believe this process ought to commence with efforts to identify a set of common expectations for these institutions and organizations, beginning with our public schools. We have started this process at the state and local levels in Connecticut. Our "Common Core of Learning", drafted by a committee of distinguished leaders from across the state, sets out what our citizens can rightly expect of our students and schools with regard to demonstratable outcomes. The State Board of Education is challenging local school board members, parents, and concerned citizens to use the Common Core to promote and guide a new level of dialogue about education.

I should add that included among the expected outcomes identified in the common core are the basic literary skills as well as the kinds of reasoning, problem solving, and communication skills that I suggested will be so critical in the workplace of the future.

I think post-secondary institutions, for their part, can do more in the area of ensuring that their graduates are prepared to meet changing skill requirements, especially in the two areas I mentioned earlier: technology and human resources management. For example, community and four year colleges can begin to require that all students pursuing a major in the applied sciences or technologies complete coursework in the humanities and social sciences. A number of institutions, ranging from Northwest Community College in Connecticut to the Massachusetts Institute of Technology, have already reorganized their distribution requirements to address this need. The others should follow their lead in this area.

Along the same lines, more institutions should review their business management curriculum. All such programs should include required coursework in technology, human relations, and human resources management.

There is one other area where I think our colleges and universities could make a greater contribution to human resources development. And perhaps this is an expectation that might pertain most directly to our state college and university systems. Many of our corporations are going to need help in their efforts to upgrade the skills of their workforces. Companies that lack the resources to support their own in-house programs are going to have to look to their local post-secondary institutions to provide the education and training their employees will need. Companies that are able to operate their own programs - and these are primarily, but not exclusively, our Fortune 1000 companies - are also going to have to look to these institutions for technical assistance in the areas of both training content and instructional method.

We have to ask ourselves whether corporate expectations are reasonable. If the answer is "yes", and I would submit that it is, the operant question is whether these institutions are really up to the challenge. It seems to me that many of these institutions have yet to come to terms with the fact that their market is changing in significant ways. I make this claim not on the basis of what I read in their promotional literature, but on the basis of how they are allocating their resources. More often than not, the entities responsible for professional and continuing education operate at the margins of the institution in terms of faculty qualifications, availability of student support services, financial aid, and so forth. I think a careful review of this matter by all relevant parties, including

State Boards of Higher Education, would be well advised.

Similarly, we need to take a careful look at the extent to which the information and expertise resident in these institutions is made available to the private sector. As it now stands, both the higher education "culture" and incentive systems work to inhibit this transfer. Faculty, for example, are rewarded for their ability to create new knowledge, not for their ability to synthesize and communicate this knowledge in a way that would be immediately applicable to those of us who are grappling with such matters as adult learning, instructional design, program evaluation, and organizational development. I think this need is too important to our common interests to be left to isolated entrepeneurial activity.

Thus far, I have identified areas where we are experiencing the greatest needs with regard to workforce skill requirements. I have also suggested a number of policy and program initiatives which, if undertaken at the local and state levels, would help move us closer to addressing these needs. In the time remaining, I would like to outline a limited number of proposals for federal leadership.

First, I think it would be appropriate for the federal government to increase its support to those large urban school districts that are prepared to commit themselves to improving the basic literacy skills of their students. Such support should be contingent on the district's ability to identify target outcomes related to the kinds of functional skills that are found in the National Assessment of Educational Progress study I mentioned earlier. The National Institute of Education's "Excellence in Education" activity could be expanded to accommodate this program.

The U.S. Department of Education could also do more to encourage innovation in curriculum design at the post-secondary level. In particular, they could provide special incentive grants - perhaps through The Fund for the Improvement of Post-Secondary Education - for institutions willing to integrate liberal arts subject matter into their technology curriculum, and technology and human relations subject matter into their business management curriculum.

Third, the U.S. Department of Education should create something along the lines of a National Clearinghouse on Corporate Education and Training. We presently have nine educational research information clearinghouses, eleven national centers for excellence in education, and six regional education laboratories. But even though we spend at least as much on the education and training of adults in the workplace as we do in the education of children and young adults in our schools and colleges, we find the existing clearinghouses, centers, and laboratories largely unprepared to relate to the needs of the corporate sector. Perhaps a dedicated resource would help bring a more desirable balance to the system.

Fourth, the federal government should encourage, through the provision of seed money, state and regional initiatives that would increase the private sector's access to higher education resources, including their information and expertise. The model I have in mind would be similar to Pennsylvania's Ben Franklin Partnership, except that the mission would focus on human resources development rather than technology development. This entity would do two things. First, it would broker both technical assistance and existing educational courses and programs. Where necessary, it would also produce and deliver new courses and programs tailored to the needs of area industries. Delivery would be patterned after the highly successful National Technical University - an organization that makes quality telecourses available to businesses on a 24 hour a day, seven day a week basis.

Finally, I think that Congress should seriously consider revisions to the tax code which would create greater incentives for companies to invest in employee education and training. One approach that is frequently mentioned in this regard would be the granting of tax credits to firms willing to increase their education and training expenditures over some base year. I realize that there is an issue as to whether this credit ought to apply to federal or state tax liability. My personal concern with implementing this approach entirely at the state level is that many firms that would stand to benefit most from the credit are located in states that, almost by definition, may be least able to forgo the revenue. This matter certainly deserves further study.

In any event, larger firms could use the retained funds to establish, among other things, adult literacy programs for their employees. I think this would be a very desirable outcome, since this type of education could probably be carried out much more efficiently by private companies than by public adult education organizations. After all, one of the key tenets of adult learning theory is that the learner must perceive the personal relevance of instruction. Requirements associated with job performance and advancement would obviously provide this ingredient.

Smaller firms could either purchase education and training services from public providers, or where appropriate, from other companies. The services of the "electronic training network" I proposed would also be quite attractive here, since the unit cost of training would likely be low.

One very worthwhile by-product of increasing the amount of employee education and training funds "in circulation" is that it would probably bring about some needed reform in the system. As Marc Tucker and David Mundel of the Carnegie Forum have pointed out, colleges and universities would be eligible to provide services to companies taking advantage of the tax credit. But they would have to compete for the privilege with a longer roster of potential providers. Consequently, they would have to become both more efficient and more responsive to the needs of business.

In conclusion, let me say that I am optimistic about our collective ability to address the challenge of upgrading the skills of our workforce. And I find efforts - such as this important hearing - to more fully understand the issues, and more carefully explore the options, to be especially encouraging. Thank you for the opportunity to contribute to your important work.

Representative SCHEUER. Thank you very much, Mr. Foster.

Now we'll hear from Mr. Barton.

## STATEMENT OF PAUL E. BARTON, ASSOCIATE DIRECTOR, THE NATION'S REPORT CARD, NATIONAL ASSESSMENT OF EDUCATION PROGRESS, EDUCATIONAL TESTING SERVICE

Mr. BARTON. Thank you, Mr. Chairman.

The Nation's Report Card is in the business of measuring what high school students and elementary school students know and can do as well as measuring young adult literacy in household surveys.

I would just like to briefly give you a thumbnail sketch of what high school students know and can do today based upon our very recent assessments, starting with reading. They can read at rudimentary level. Virtually all of them can. At a basic level, 97 percent high school seniors and 17-year-old students can read.

This means that at this basic level they have the ability to understand specific or sequentially related information.

Most, 84 percent, can read at this critical middle level on a scale of zero to 500, which is the way we measure it. At 250, we call that the intermediate level.

At that intermediate level, 84 percent can search for specific information, interrelate ideas, and make generalizations based on reading passages drawn from literature, science, social studies.

Where they fall short is the next stage, which is what we call the adept level at 300. And by the time these 17-year-old students hit those reading passages you're talking about, only 40 percent——

Representative SCHEUER. Did you say the adept level?

Mr. BARTON. We call it adept. They are adept readers.

Representative SCHEUER. What is the difference between adept and whatever word you used to characterize the 50 percentile?

Mr. BARTON. The intermediate before. At the adept level, there's where they're called upon to get into higher level of reading and reasoning. There's where they're called upon to deal with relatively complicated information.

The only way you can really transmit this kind of information is to see what you asked them to read and see how they do. So, at this adept level, where 60 percent of them have dropped out, I've appended to my prepared statement a typical example of what they can do at that level.

The example is of a 12-passage history of voting rights for women; students are asked to answer three questions about it. Only about 40 percent are likely to be able to handle that task or a task like that.

Representative SCHEUER. That means they haven't comprehended. They haven't been successful in comprehending the basic essence of that information.

Mr. BARTON. That's right, at that level. They can't read those 12 passages about the voting rights of women and answer reasonably easy questions about it.

Representative SCHEUER. These are 12th graders?

Mr. BARTON. Seventeen year olds. At this age level, they would be a combination of 11th and 12th graders, but mostly 12th graders.

Then there's one more level, which is the advanced level. That advanced level would require them to be able to handle specialized materials that you would run into in professional and technical working environments.

And we're down to 5 percent that can do that; among 17-year-old students, 95 percent cannot.

Now the good new is——

Representative SCHEUER. Is that more or less the level of cognitive skills they'd need to make it in some kind of postsecondary instruction?

Mr. BARTON. That's what we have said. These passages have not necessarily been taken from freshman college texts; we are not that definitive about it.

But, in general, we're talking about the kind of specialized materials in science, for instance, that you would start using in postsecondary education. Obviously, that means, since a lot higher percentage than that are going on to college, that a lot of the colleges aren't using materials that are at that high level.

The good news over time is that over the last 15 years we have improved a bit in reading, on the average, for 17 year olds, particularly between 1984 and 1988. I'm talking about marginal improvements. But the minority levels of reading between 1971 and 1984, a 13-year period, have improved a fair amount.

So the floor in these basic areas has been raising and becoming more uniform. However, the gap in reading is still huge. The average 17-year-old student who is black or Hispanic is reading at about the average of a 13-year-old white student. So that gap, even though it's been narrowed, is still huge.

The writing news is not as good as for reading. Eleventh graders are my reference point here. I would say it's generally abysmal. In our report, we use the word "distressing." And, in 10 years, the last decade, achievement stayed about the same. Achievement went down a little bit, then came back up, and ended the decade about where we began. In informative writing, for example, only 3 in 10 11th graders did an adequate job of describing a modern painting. Only 6 in 10 did an adequate job of writing a little description of what they thought would be a desirable job for them and what their qualifications were. And from about 7 percent to 25 percent, on four tasks, did an adequate analysis of some social science passages, with about 8 or 10 doing it minimally—I mean, just barely.

So we haven't reached even an adequate level in writing. And I haven't even talked about the next step up, which we call elaborated writing, which simply means that they went beyond the essentials to a higher level of coherence. Only talking about 2 to 5 percent of 11th graders are reaching that level. The only good news I have to report is that in writing mechanics of grammar, punctuation, and spelling, they do pretty well. They by and large have gotten on top of where to put commas, where to use question marks. This shows that where the concentration exists in writing instruction, you get results.

Mr. Packer has described our literacy results.

We profiled literacy. We went into about 4,000 homes to give an hour and a half literacy assessment, in 1985, of 21 to 25 year olds, all 21 to 25 year olds at all education levels, including Ph.D.'s.

We used a rather broad definition of literacy: using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.

We profiled 21 to 25 year olds on a scale, believing that there is no single cut point where you can say over here you have the illiterates and over there you have the literates. It is a progressive thing, a continuum. We can tell you where they are along that scale.

The assessment involved dealing with prose they run into in jobs and in life, dealing with documents, training schedules, bank statements, and dealing with quantitative exercises, but the kind that are embedded in print. To perform on the assessment, you have to be able to understand the instructions; the tasks are unlike school math exercises where you get three numbers, add them up, and that is all you have to do.

Practically all, as Arnold Packer said, can do the simple things with the printed word, about 95 percent. They can enter personal background information on a job application. They can match money saving coupons at the grocery store to a shopping list of a few items, and by and large, 92 percent of them can do things like totaling two entries on a bank deposit slip.

So at that basic level—I guess I ought to use the term "old basic level," since you are using the term "new basics"—we have a literate young adult population. It is when you get beyond that very far that you quickly start finding that at the midlevels in these scales they can decode the printed word, but they are not really carrying out the tasks that are conveyed to them in that printed word.

For example, in prose at the 350 level on a scale of 500, about 27 percent can do things like finding bits of information in a really very lengthy newspaper article. I am talking about high school graduates here in this particular case who may have a little bit of postsecondary education, but they have not gotten a certification beyond high school. So this overstates the high school graduate's proficiency.

On documents at the 350 level, when you give young adults a bus schedule and say find the bus that will leave at a certain time on a Saturday morning and tell me what time it will end up at the terminal, we are only talking about 11 percent being able to do tasks like that.

On the quantative scale there is a task where you give them a menu and say: here's the menu, here are the prices, you order this and you order that and you total up the bill and you give the waiter or waitress $3. Then you ask, how much is your change. Only about 3 in 10 could perform at that level. When you ask them to add in the tip at 10 percent, we dropped down to 10 or 11 percent who can do tasks like that.

So there is wide spread literacy at the basic level. But as you start into information processing, using the printed word in real life situations, performance starts to drop very quickly.

I will conclude with a couple of observations about this in general, about the old basic levels we have achieved.

We have gained in reading. We have narrowed the gap between whites and minorities at least somewhat in reading, but it is still huge.

Over time we have obviously improved on literacy in the standard of 100 years ago, such as signing your name. We can do that. The standard in World War II was a fourth grade education, and basically we have reached that. The standard in the war on poverty in the sixties was an eighth grade education; about 80 percent have reached that level.

We are deficient in the higher order skills, the higher level skills. These assessments need better ways of estimating higher order skills. We are limited by virtue of declines in resources to paper and pencil tests with heavily multiple choice questions, although we still try to do open-ended questions.

We have developed techniques and piloted them for measuring higher order skills with hands-on equipment, and we are looking for money next year to be able to actually put that into the field. While we see no drops in this time period in communications skills, that is against a backdrop where requirements are rising, as we are told by the Hudson Institute. So relatively, we may be declining.

The information on the difference between being able to decode print and being able to do these tasks with information processing skills we think is very important to informing adult literacy efforts. There is an awful lot of effort to teach people to read, and there are people who can't read, but the larger literacy problem we see is that they can decode the print but there is something going on here beyond that and instruction is going to have to deal with it.

Representative SCHEUER. I think you are saying that that is true both of adult illiteracy and the illiteracy of school children or, let us say, literacy but not functional literacy.

Mr. BARTON. We have not measured—we have not given the adult literacy survey to school students yet. We gave them regular classroom kinds of reading.

Representative SCHEUER. You are telling us that 95 percent of 11th or 12th graders are literate, but that anywhere from 40 percent or up can't process the information?

Mr. BARTON. That is essentially correct, sir.

Representative SCHEUER. So you are talking about a large degree of functionally illiteracy among both the high school kids and our adult population?

Mr. BARTON. That is right.

We will have our report out on U.S. history and literature for 11th graders toward the end of the month. You read a lot in the paper about what kids know about history and literataure from our assessment of this, which we have done under contract for the Education and Excellence Network, and the papers have been full the last couple of weeks of what kids don't know about basic knowledge of history.

Those results were just published by Diane Ravitch and Chester Finn.

Representative SCHEUER. Is that her book right here? Did you bring that along to leave with the subcommittee? [Laughter.]

Mr. BARTON. That is exactly why I brought it along. [Laughter.]

Representative SCHEUER. Marvelous.

Mr. BARTON. We will also send you our report when it comes out.

Representative **Scheuer**. Very good, excellent.

Mr. **Barton**. I mentioned that we are not ready with our own report. This book has the data we have collected. We will also issue our own report; we collect the data under contract for EEN with money from the National Endowment for the Humanities.

But I mention it because the humanities mostly get left out of discussions of educational progress when we are talking about our competitive situation and international economies. Most of the commission reports left it out, with some notable exceptions, such as the Paidea proposal and Tex Sizer and Ernie Boyer's reports on high school.

If we just look at those skills that are approximately related to technology, which are very important, and we leave the rest out, we will be too narrow. I think we have to have the view that we are competing against whole cultures, when we are competing against Japan, for example. In the case of the Japanese they have a sense of their history, they have a knowledge of their history, they have a common culture of striving.

So I am just mentioning that.

Representative **Scheuer**. Let me ask you a question.

The NAEP study released by the National Endowment for the Arts found that 68 percent of the students didn't know who wrote the "Canterbury Tales," didn't know when the Civil War took place, didn't know who wrote "Crime and Punishment," and so forth.

Do these Japanese young people who are so impressive as members of the work force, do they know that Kyoto was the ancient capital of Japan until 1890? Do they know who the ancient warriors and poets and dramatists of Japan were? Do they know who was the chief in the Tokugawa period? Or are they simply functionally literate in terms of performing up to standards of excellence on the work force?

What I am asking is how important is it that these kids don't know when the Civil War took place?

They are obviously deprived. They can't be as enriched as kids who are really familiar with what America is all about.

But in terms of not knowing who wrote the "Canterbury Tales" and not knowing who authored "Crime and Punishment," is that really relevant?

It may be relevant to whether or not they are good citizens and how interesting they are, but is it relevant to how competently they can perform in the workplace?

Mr. **Barton**. There is certainly not an absolutely direct relevance. I couldn't argue it, and I have no factual information about Japan. I don't know whether we have had an international comparison on literature. I am not really aware of one in the IEA comparisons.

Since it is a homogeneous culture with a long history, my guess is that they do know their history an awful lot better than we do.

All I am really suggesting is that there is a holistic element in terms of cultures competing, in which motivations and common national strivings are shaped.

I would be hard pressed, Mr. Chairman, to give you a precise relationship, but many of our students do not know an awful lot of common things. Only 3 in 10 can place the Civil War within its correct 50-year period. About half can tell you that Joseph Stalin, as compared to some other people in multiple choice questions, was the Russian leader when the United States entered World War II. However, 7 in 10 do know that Lincoln wrote the Emancipation Proclamation.

In both history and literature you have to look at these questions and make up your own mind as to how important you think it to be able to answer them.

Representative **Scheuer**. I think it is important. I am a product of a liberal arts education. I was a classics and music major in college, and I believe in a classics and liberal arts education.

But within the framework that we are discussing, I don't know how important those figures that you just cited are to the question of whether the young person can perform effectively in the work force. The ability to read and the ability to think cognitively and to reason abstractly can all be there without that kid ever having given a thought as to who wrote the "Canterbury Tales" or who wrote "Crime and Punishment."

Mr. **Barton**. I would have to say, sir, I don't know either.

That is my summary.

[The prepared statement of Mr. Barton, together with an attachment, follows:]

# PREPARED STATEMENT OF PAUL E. BARTON*

Mr. Chairman and members of the Committee: It is a pleasure to have the opportunity to convey what the Nation's Report Card has learned about high school graduates, and to comment on their achievement in terms of what it may mean for the quality of the workforce, as requested in your letter of September 14, 1987.

The "Report Card" is a project ongoing since 1969, mandated by Congress as the National Assessment of Educational Progress (NAEP), funded by the Department of Education's Center for Education Statistics, and currently administered by Educational Testing Service.

First I will attempt to summarize what we have learned about high school students and graduates from recent assessments. Then, I will comment on the relation of these findings to the issues being addressed by this Committee.

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*Associate Director, The Nation's Report Card, National Assessment of Educational Progress, Educational Testing Service. Views here expressed do not necessarily represent those of the funding agency.

## READING

After level performance from 1971 to 1980, 17-year-old students slightly improved in reading proficiency between 1980 to 1984. Better news yet, Black and Hispanic 17-year-olds improved considerably, although they remained far behind their White peers (in 1984, the average performance of Black and Hispanic students at age 17 was at the average for 13-year-old White students).

By age 17, all students had achieved **rudimentary** reading skills, and 97 percent had reached a **basic** level where they have the ability to understand specific or sequentially related information. The great majority... 84 percent... could read at the **intermediate** level, which means that they can search for specific information, interrelate ideas, and make generalizations based on what they read; they did this dealing with reading passages from literature, science, and social studies.

At the **adept** level, there was a huge drop in performance; just 2 in 5 reached this level, where they must deal with relatively complicated information. For example, they are likely to fail at an assignment like the one in attachment A, where they are asked to read a 12-paragraph account of the history of voting rights for women and answer questions based on it.

We lost 95 percent of 17-year-old students, at the **advanced** reading level where they are required to synthesize and learn from specialized materials, including scientific materials, literary essays, historical documents, and materials found in professional and technical working environments.

In our report to the nation, The Reading Report Card, we expressed satisfaction that progress was being made and that students were reaching this intermediate level. At the same time we expressed great concern about the disproportionately low performance, on average, by minority youngsters, and the general shortage of higher-level reading skills among all students.

## WRITING

NAEP measures proficiency in three kinds of writing: informative writing, persuasive writing, and imaginative writing.

In general, the writing performance of 17-year-old students fell from 1974 to 1979, then rose from 1979 to 1984, with the net result that performance levels at the close of the decade were little changed.

The levels of achievement are disappointing, and on some tasks dismaying. The relatively happy state of affairs with respect to reading gives way to gloom when we examine writing.

Informative Writing. While around 6 in 10 eleventh graders assessed in 1984 could write **adequate** descriptions based on familiar, relatively simple information or experiences, only about 3 in 10 wrote an **adequate** description of a modern painting. On more difficult tasks requiring some analysis of social science passages, only 7 to 25 percent performed **adequately**, while 8 in 10 reached a **minimal** level of accomplishment.*

Persuasive Writing. In this kind of writing, students try to win others to their point of view, defending their positions or arguing for a specific course of action. On four different tasks, between 15 percent and 28 percent of the 17-year-olds performed **adequately**, while from 60 to 90 percent performed **minimally**.

Imaginative Writing includes the entire range of literacy and expressive writing. In three such writing tasks, from 18 to 48 percent of eleventh graders performed adequately or better, and from 66 to 88 percent performed minimally or better.

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*The task on which 25 percent performed adequately required students to read a passage about frontier life. Then they were asked to write a comparison of modern-day food with frontier food.

In a separate report, NAEP analyzed student performance in the mechanics of writing, spelling, grammar and punctuation. Achievement levels were relatively high, and control of written English increased at the older ages, reflecting the considerable attention these matters get in the schools.

## LITERACY

Last fall, NAEP released the results of the literacy assessment of young adults aged 21-25, based on a household assessment conducted in 1985. The report was entitled Literacy: Profiles of America's Young Adults. The assessment consisted of 90-minute household interviews with a nationally representative sample of some 4,000 young adults, irrespective of how much education they had; it included college graduates as well as high school dropouts. Your concern is with what high school students can do, so I will address the literacy skills of two groups: those who dropped out during their high school years and those who graduated (this later category includes those who had some post-secondary education, so the results will overstate what high school graduates can do).

But first, I should describe this literacy study, for it differs in important respects from past studies, and from frequently used concepts of literacy and illiteracy.

First, our study recognizes that there is no single cut-point that separates those who are fully literate from those who are totally illiterate; instead, there is a continuum of literacy skills in our nation and this had led us to "profile" literacy skills rather than project a single number of "illiterates," as previous studies have done.

Second, we have chosen to profile literacy in three areas, rather than as a single construct:

-- **Prose Literacy**: reading and interpreting prose, as in newspaper articles, magazines, and books;

-- **Document Literacy**: identifying and using information located in documents such as forms, tables, charts, and indexes; and,

-- **Quantitative Literacy**: applying numerical operations to information contained in printed material such as a menu, a checkbook, or an advertisement.

Third, we went beyond the traditional approach of just asking questions and reporting the average percent of correct answers. Using psychometric technology, proficiency scales were created that range from 0 to 500, for each of the three aspects of literacy. At points along the scale, proficiency levels are illustrated with tasks at which people who score at that level are likely to succeed. Such a scale enables comparisons among many groups within the population, allows us to relate proficiency to other information collected about the young adults (30 minutes of the assessment were devoted to background questions), and secures the opportunity for accurate comparisons over time if the survey is repeated.

Practically all young adults who finished high school (and had some post-secondary education) are able to use printed information to accomplish tasks that are routine or uncomplicated. Below, results for the 200 scale level are presented.

-- For Prose Literacy, 97 percent performed at least at the 200 level on a scale of 0 to 500. One task characteristic of performance at this level is writing a simple description of the type of job one would like to have (199). Another is accurately locating a single piece of information from a newspaper article of moderate length (210).

- For Document Literacy, 97 percent performed at least at the 200 level. One characteristic task directs the reader to match money-saving coupons to a shopping list of several items (211). Another task involves entering personal background information on a job application (196).
- For Quantitative Literacy, 93 percent performed at least at the 225 level. The task that best typifies this level requires totaling two entries on a bank deposit slip (233).

While we can take some solace in the finding that almost all perform at these basic levels, literacy skills seem to us to be distressingly limited: relatively small proportions of young adult high school graduates were proficient at levels characterized by the more moderate or relatively complex tasks.

- For Prose Literacy, just 27 percent performed at the 325 level. A representative task at this level required locating information on the basis of three bits of information that are repeated throughout a lengthy news article.

-- For Document Literacy, only 11 percent are estimated to be at or above the 350 level, where they are likely to be able to do tasks such as figuring out, from a bus schedule--the time on a Saturday morning when the second bus arrives at the Downtown Terminal (334).

-- For Quantitative Literacy, just 30 percent are estimated to be at or above the 325 level, where a typical task requires the reader to examine a menu to compute the cost of a specified meal and to determine the correct change from a specified amount (337). (Only about 13 percent were at the 350, level where performance included figuring the exact amount of a 10 percent tip).

Needless to say, high school dropouts performed much less well than graduates. On the prose scale, just 10 percent were able to find information in the news article, compared with 27 percent for graduates. On the quantitative scale, the results were similar. Just 10 percent were able to compute the cost of a meal from a menu, compared with 30 percent for graduates.

The above is gleaned from examining just two levels on each of the three scales. Everyone can look at representative tasks at different proficiency levels and make their judgments about what proportions are ill-prepared for life's challenges. The levels of literacy needed by any individual depend on the demands individuals face in different life areas ... of work, home, and community. And within those areas the questions become: What job? Doing what in the home? Doing what in the community? The NAEP study has measured what young adults can do; it has not measured what different settings require of them. For example, fewer than one in twenty is at the proficiency level (375) represented by the task of estimating cost using grocery store unit price labels. Is that acceptable? Is that a failure during the school years?

These levels would seem to us to be disappointing and inadequate if we require a more competent labor force in an economy increasingly shaped by technology.

Not only are small proportions of young adults making it to advanced levels on the literacy scales, but proficiency levels vary considerably among different populations of young adults. (The differences described below are based on the entire sample of 21- to 25-year-olds, instead of only high school graduates.)

- o Black young adults, on average, perform significantly below White young adults, with Hispanic young adults performing mid-way between.
  - -- Eighty-six percent of Black, 94 percent of Hispanic, and 98 percent of White young adults perform at least at the 200 level on the Prose Literacy Scale.
  - -- Eleven percent of Black, 24 percent of Hispanic, and 43 percent of White young adults perform at or above the 325 level on this scale.
- o The longer the time spent in school, the higher the literacy proficiency. Again, using the prose scale:
  - -- At or above the 200 level are 71 percent of those with 8 or less years of school, 88 percent of high school dropouts, and 97 percent of the young adults who have a high school diploma or some post-secondary education.

-- At or above the 325 level are 0 percent of those with 8 or less years of school, 10 percent of high school dropouts, 27 percent with a high school diploma or some post-secondary education, and 63 percent with a post-secondary degree.

While the use of simple print for routine tasks is within the grasp of most young adults, literacy skills remain an unreached potential for a large proportion. This is an important finding for programmatic efforts aimed at improvement. The deficiency identified here is in young adults' skills at dealing with the more complex tasks embedded in print materials. Evidently, the printed word usually can be decoded, but the information obtained is not processed correctly to solve the problem. This information is as important for school curricula as it is for shaping adult literacy programs.

## UNITED STATES HISTORY AND LITERATURE

The education reform movement of the last few years has largely ignored the humanities. The major commission reports and studies have said practically nothing about these subject areas (with a few important exceptions). Likely, this is due to the central concern about the role of education in ensuring economic growth, in sustaining the economy in a technological era, and in the critical business of staying (becoming) competitive in world markets. While it is premature for NAEP to say much about current student knowledge of U.S. history and literature, the focus of these hearings--on the quality of the labor force--suggests that the humanities could be forgotten again. So I will review the situation briefly.

NAEP assessed basic knowledge of literature and United States history, among 17-year-old students, in the spring of 1986, under a contract with the

Educational Excellence Network, which was funded by the National Endowment for the Humanities to prepare a report on the matter. While the Public-Use Data Tape has been available since last spring, and EEN has issued its report, NAEP's own report has not been published (it will be this month). Student performance on the assessment is fully described in What Do Our 17-Year-Olds Know?, written by Diane Ravitch and Chester E. Finn, Jr. (with a Foreword by Lynne V. Cheney), for the EEN.

Commenting on the state of teaching and learning, authors Ravitch and Finn come to this conclusion:

> "If there were such a thing as a national report card for those studying American history and literature, then we would have to say that this nationally representative sample of eleventh grade students earns failing marks in both subjects. A few do exceptionally well; the great majority do not. So long as our schools are expected to educate all our youngsters, not just the best and the brightest, then the results of this assessment are cause for serious concern."

Similarly concerned about what she considered a poor showing on the assessment, Lynne V. Cheney, Chair of the National Endowment for the Humanities, in the Foreword to the Ravitch-Finn book, sums it up this way:

> "History and Literature are important, then; but we are no longer emphasizing their study in our schools. When once children studied history every year from kindergarten through twelfth grade, now, in many states, they are required to study it but a single year. Where once grade school students had textbooks that contained Longfellow, Hawthorne, Shakespeare, and Dickens, now they have readers with essays about how to read maps and decide on careers."

Judgments will likely differ on what the results mean; they will vary with the importance assigned to such factual knowledge, the significance attached to the specific questions asked in the NAEP Assessment, and the priorities assigned to these subjects as compared with others. Yet, after a careful reading of the results, I expect that few will be wholly pleased by them, although many may be less alarmed. The NAEP Assessment results will, we hope, inform this important debate about what students should know and schools should teach.

We would, I think, be making a mistake to confine our views on the quality of the future labor force being incubated in our schools to the math and science dimension of literacy. Although these are the skills most proximate to the functioning of a technological economy, we compete with whole cultures in the world economy, and there is risk in losing a sense of our own culture in an emphasis on skills and cognitive development that are devoid of content. The motivation to excel in Japan, for example, is rooted in the sense of a Nation and a culture with a very long history, and of shared experiences, values, and strivings for the future.

* * * * *

The above is a brief summary of what NAEP has learned about what current and recent high school students know and can do, from its assessments during the last three years. This knowledge will be greatly expanded in the coming months as NAEP completes the reporting of the 1986 assessment, in the important subjects of math, science, and computer competence.

With the returns now in, some conclusions can be reached about the relationship between what students are learning in school and what skills and abilities will be needed in the workforce of the future. NAEP, of course, measures what young people know; it does not make labor force projections or attempt to measure what skills jobs or other life activities require. But a few comments are warranted.

## 1. Basic Skills versus Higher-Order Skills

The distinction between so-called basic and higher-order skills, made with differing words, has been receiving much recent comment. A consistent finding in recent NAEP assessments is that students are reaching basic ... or just adequate ... levels of knowledge and skills. In the case of reading there has been some improvement at these levels, and substantial improvement among minority students (we have no trend data in literacy). The schools concentrated on basic skills and minimum competencies throughout the 1970's, and the gains indicate the results from this concentration. Further, our analysis suggests that in reading the floor was raised by the "early start" provided by the early childhood education programs which commenced in the 1960's.

At the same time we are seeing the ranks of students thin as we progress up the proficiency scales, both in the case of reading and in the three measures of literacy. These results have helped identify a deficiency, although a number of education commissions and studies have been calling attention to this problem throughout the 1980s. If one expects an economy that requires an even better educated work force, as a great many do, there is cause for concern.

Last March, NAEP released a brief synthesis of its reading, writing and literacy assessments, entitled Learning to be Literate in America. It summed the situation up this way:

> "The results across a variety of assessments present a consistent picture of the state of literacy in America:
>
> o Most children and young adults demonstrate surface understanding of a range of materials appropriate for their age.
>
> o Only small percentages of children and young adults can reason effectively about what they are reading or writing.
>
> In fostering literacy in America, we have made an impressive beginning--but not enough people are

> developing the advanced literacy skills that are needed in our increasingly complex and technological society."

## 2. The Future Need

While NAEP makes neither labor force projections nor analyzes requirements, others are beginning to put together projections that enable judgments about future needs versus current trends. A recent and sophisticated effort in this regard is the project of the Hudson Institute (funded by the U.S. Department of Labor) resulting in the report Workforce 2000: Work and Workers for the 21st Century, written by William B. Johnston and Arnold E. Packer. The conclusion reached regarding trends in the educational requirements of jobs was:

> "Ranking of all jobs [projected to the year 2000] according to the skills required on a scale of 1-6, with six being the highest level of skills, indicates that the fastest-growing jobs require much higher math, language, and reasoning capabilities than current jobs, while slowly-growing jobs require less ... When skill requirements in language, reasoning, and mathematics are averaged, only four percent of the new jobs can be filled by individuals with the lowest levels of skills, compared to 9 percent of jobs requiring such low skills today. At the other end of the scale, 41 percent of the new jobs will require skills ranked in one of the top three categories, compared with only 24 percent that require such proficiency at present."

Recently, NAEP has been cooperating with the Hudson Institute to use data from the NAEP young adult literacy assessment in the Institute's effort to project the literacy requirements that will be faced by the nation's workforce in the year 2000.

## 3. The Dimensions of Quality

Academic achievements are a major factor in judging the quality of new entrants to the labor force, and these are what NAEP measures. However, for those entering employment directly from high school, academic knowledge is only one dimension that employers have in mind when they hire and when they judge the schools on the products they are turning out. A recent illustration of this breadth of preparation is what the just released and highly publicized report of the Committee for Economic Development, entitled Children in Need, has to say about the "invisible curriculum" (this was also an important theme in CED's 1985 report, Investing in our Children). In a section titled "Employability Skills and the Invisible Curriculum", CED pointed out that:

> An effective invisible curriculum stresses good work habits, teamwork, perseverance, honesty, self-reliance, and consideration for others. These character-builders are as important to future success as the academic skills taught through the traditional curriculum.
>
> The invisible curriculum is where the foundations for employability are laid. Schools that develop and reinforce good habits, shared values, and high standards of behavior are most likely to produce graduates who succeed in higher education and work."

My own investigations into what employers are looking for when they hire, and when they judge the products of the school, would bear out the views expressed in the CED report.* In the 1980's there were a half-dozen or so studies of what employers are looking for. For example:

- In a telephone survey of a sample of "The Fortune 1,300" companies in 1983, executives were asked how they would rank education, job experience and character in hiring decisions. They put character first. They also believed, however, that serious changes were needed in education.

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*Paul E. Barton, "Employers and High Schools: The Fit Between Learning and Working," in Business and the Public Schools, edited by Marsha Levine and Denis P. Doyle, Peabody Journal of Education, Winter, 1986.

- o In a 1983 study of employers in San Francisco, employers were asked to rank 16 factors in hiring decisions. At the top was "seemed serious about work and eager to get a job." Second was "seemed bright and alert." The record of achievement in school was down the list.

Our task at NAEP is to track educational progress. Our results are increasingly pertinent for an employing community that clearly wants better educated workers, and that believes education requirements will increase in the future. However, we also need to keep in mind that the academic achievement of students is not the only dimension in achieving a high quality and adaptable workforce.

### 4. The Literacy Question

Last, I would call particular attention to the nature of the findings of NAEP's young adult literacy assessment. Almost all young Americans in this age group can perform the elemental tasks with the printed and written word. They likely can a) write a simple description of the type of job they would like to have, b) locate the expiration date on a driver's license, and c) for 92 percent, make entries on a bank deposit slip. What they can't do is carry out instructions in print for moderately complicated tasks ... assignments that require information processing skills in addition to decoding the printed word. Program efforts to combat "illiteracy" need to understand these distinctions, and address the problems of those people whose poor performance in the middle areas of the scales stems from their limited range of skills. NAEP hopes that the assessment will inform the development of remedial programs as well as provide profiles of the levels of literacy in the adult population. To better track the development of literacy through the school years, NAEP will give a portion of the literacy assessment used for young adults in 1985 to the eighth and twelfth grade students sampled in NAEP's regular biennial survey next year.

* * * * *

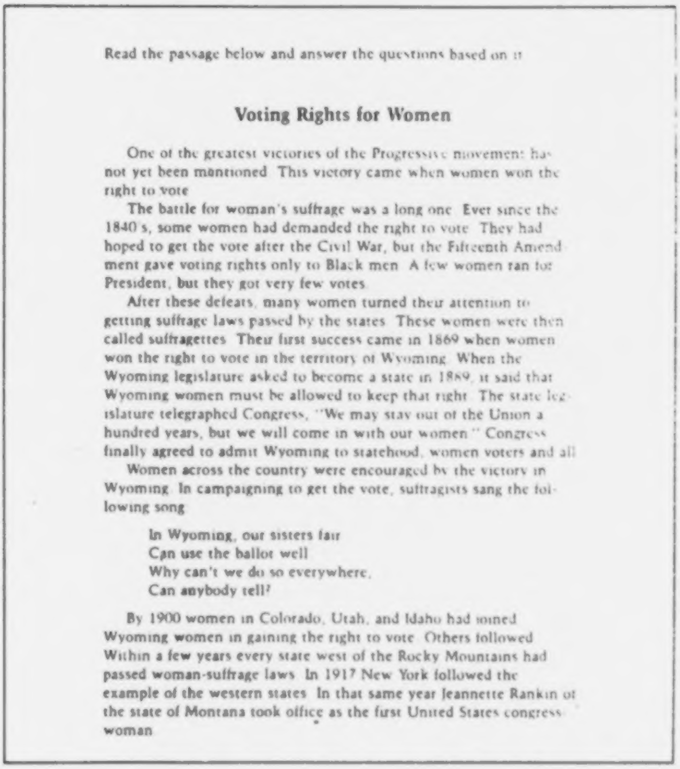
Education has broad objectives, of preparing all to cope with and enjoy life and to develop to full potential. One very important life experience is participation in the workforce, and it is proper to ask how the schools prepare our young citizens for this dimension, as well as for the others that stand to enrich their lives.

We can hardly underestimate the importance of paying thoughtful attention both to the role schools play in this labor force preparation, and to the assistance they may need to meet the challenges of the future.

For, as the Chairman noted in his letter inviting me to testify, "fundamental changes in the international economic structure appear to be making the skills of our workers a crucial factor in the capacity of our economy to provide a high standard of living for our citizens."

ATTACHMENT A

**Example of a reading Task that students at the "adept" reading level (300 on a scale of from 0 to 500) are likely to be able to perform.**



Read the passage below and answer the questions based on it.

### Voting Rights for Women

One of the greatest victories of the Progressive movement has not yet been mentioned. This victory came when women won the right to vote.

The battle for woman's suffrage was a long one. Ever since the 1840's, some women had demanded the right to vote. They had hoped to get the vote after the Civil War, but the Fifteenth Amendment gave voting rights only to Black men. A few women ran for President, but they got very few votes.

After these defeats, many women turned their attention to getting suffrage laws passed by the states. These women were then called suffragettes. Their first success came in 1869 when women won the right to vote in the territory of Wyoming. When the Wyoming legislature asked to become a state in 1889, it said that Wyoming women must be allowed to keep that right. The state legislature telegraphed Congress, "We may stay out of the Union a hundred years, but we will come in with our women." Congress finally agreed to admit Wyoming to statehood, women voters and all.

Women across the country were encouraged by the victory in Wyoming. In campaigning to get the vote, suffragists sang the following song:

In Wyoming, our sisters fair
Can use the ballot well.
Why can't we do so everywhere,
Can anybody tell?

By 1900 women in Colorado, Utah, and Idaho had joined Wyoming women in gaining the right to vote. Others followed. Within a few years every state west of the Rocky Mountains had passed woman-suffrage laws. In 1917 New York followed the example of the western states. In that same year Jeannette Rankin of the state of Montana took office as the first United States congresswoman.

Women leaders were getting involved in many fields. Women were active in the settlement-house movement. Settlement houses were centers that helped poor people, and thousands of women became involved with settlement houses. The poverty and crime they saw made them think men had not done a good job of running the nation.

Suffragists also paid attention to the problems of working women. Many women had become members of unions. One of the best-known organizations was the International Ladies' Garment Workers Union (ILGWU). Working conditions were harsh for people who made clothes for a living. Workers had to sit on boxes. They had to buy their own needles. They even had to pay for the electricity they used. Workers often had to buy the clothes on which they had made mistakes.

In 1909 the ILGWU called a strike to protest working conditions. Over 20,000 union members refused to work. When the strike ended, the union had won a 52-hour workweek and four paid holidays a year. Employers also promised to pay for electricity and needles.

The success of the garment workers encouraged working women in other unions. But serious problems remained. In 1911 a terrible fire broke out at the Triangle shirtwaist factory in New York City. There were no sprinklers in the factory and the doors were locked. Trapped workers crowded into the top floors of the building. Others jumped to the streets below. More than a hundred women were killed.

After the Triangle fire, many working women joined the fight for voting rights. They argued that once they had gained the vote, women could work to get laws passed that would prevent such disasters.

Union speakers joined suffragists in trying to convince state legislators to pass voting rights bills. One popular speaker was Rose Schneiderman. When a state senator said that women would lose their beauty and charm if they were allowed to vote, she reported the following exchange:

> I had to point out to him that women were working in factories, but he said nothing about their losing their charm. Nor had he mentioned the women in laundries who stood for thirteen hours in terrible heat and steam with their hands in hot starch. I asked him if he thought they would lose more of their beauty and charm by putting a ballot in the ballot box than by standing all day in factories or laundries.

The suffrage movement was given a boost when American troops went to Europe in 1917 to fight in the First World War. Thousands of women took over jobs that had been held by men. National leaders began to think that women should be repaid for their work during the war. President Wilson had once felt that the question of woman's suffrage should be decided by the states. After the war he changed his mind. In 1919 Congress passed the Nineteenth Amendment. By 1920 enough states ratified the amendment so that women could vote in the presidential election that year. American women had taken a big step toward participating fully in national life.

In what year did the first United States congresswomen take office?

A 1890
B 1900
[✓ C] 1917
D 1920
E I don't know

A state senator said that women would lose their beauty and charm if they were allowed to vote. What did Rose Schneiderman say?

[✓ A] She argued that working conditions were more likely than voting rights to lead to the loss of a woman's beauty and charm
B She agreed with him but insisted on voting rights for women anyway
C She showed him that beautiful and charming women were voting in some western states
D She responded that women with beauty and charm probably did not need to vote
E I don't know

According to the article, how did the First World War help the cause of the suffragists?

A It gave garment workers an opportunity to get better jobs
B It helped union leaders to get better conditions for their members
C It encouraged women to protest the war
[✓ D] It drew national attention to the contributions of women
E I don't know

Representative **Scheuer**. Thank you very much.

We are delighted you are here, Professor Resnick.

As I mentioned before, your prepared statement will be printed in full in the record. So if you could just chat with us as though you were in your living room, then we will get on to some questions.

## STATEMENT OF LAUREN B. RESNICK, PROFESSOR OF PSYCHOLOGY AND DIRECTOR, LEARNING RESEARCH & DEVELOPMENT CENTER, UNIVERSITY OF PITTSBURGH, AND IMMEDIATE PAST PRESIDENT, AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

Ms. **Resnick**. This will be a fairly daunting living room. [Laughter.]

I really can't add to my predecessors on this panel in terms of debate, what they have said about the basic needs, except maybe to suggest that they are underestimating the current of information processing, thinking skills that American workers are going to need.

Our productive life and also our civic life are going to be shaped—are already being shaped—by demanding new technologies of production and communication, and we are going to need a population to use these that is literate in the sense that hasn't really been the central goal of American education.

I will say some more about that in a minute.

We need people who have to be able to understand complex systems that they participate in, that they work in, because they are going to have to be able to adapt to them multiple times in the course of their worklife and adapt them. We can't afford workers who simply take every little routine as given. Instead, we are going to need workers who can grasp what is going on and adapt to changes and even to breakdowns.

Breakdowns in the broadest sense occur any time there is a change in routine, and given the rate of change that we can expect in technology, everyone is going to encounter breakdowns, sometimes because the system fails, which complex systems always do, and sometimes just because it is being changed.

We are going to need people who can be intelligent users of intelligent tools.

We face a work future—it is really already present, although not as visible as it will be shortly—in which intelligent tools are shaping the nature of work. To use these tools which can make people infinitely more productive, they are going to have to know a whole lot less than they used to about how to perform routine operations and a whole lot more about how the tools work so they can query them and adjust them.

Representative **Scheuer**. When you talk about intelligent tools, you mean the computer?

Ms. **Resnick**. Yes, I mean computers standing behind various—what we call *interfaces*.

Representative **Scheuer**. Standing behind various interfaces?

Ms. **Resnick**. The interfaces are what you actually look at, the computer screen, the hand-held device that might be some help to you in performing complex work because there is a computer behind it. I am just calling them intelligent tools because it helps to focus on the fact that this is going to be a work environment in which the machines are going to have a certain degree of adaptability and "smarts" in them, and people are going to have to have even more than that or they are not going to be able to use them in any sensible way.

For example, the machines put out symbols. That is what a computer terminal——

Representative SCHEUER. The machines what?

Ms. RESNICK. They are going to symbolic representations—letters, graphs, and numbers. People have to get good at using that symbolic material. That doesn't mean just being good at moving symbols around, which is often the way schools perceive the job. It means understanding what the symbols refer to, what is the real world behind the symbols, so that people can make sensible interpretations and even sometimes override the computers, and that is a key point.

When systems change or temporarily break down, the humans who use them are going to have to do exactly what the machines can't. They are going to have to step back from the system, figure out what is wrong and how to respond. They are going to have to recognize breakdowns, know how to work around them temporarily, and get involved in redesigning.

This cannot be left just to people at the top. The new management principles make it clear that these kinds of abilities have to be distributed throughout a work force. Other kinds of research, cognitive research, research by psychologists and other people who study human functioning on jobs—there have been a lot of studies recently on how people function in various kinds of jobs. These jobs range from the most complex, such as medical diagnosis, to jobs that we think of as technically skilled jobs.

Everywhere we learn that for people to work well they have to have a mental model of the system, an idea of what the different parts of the system are, how they fit together, how changes in one part of the system affect others.

With that kind of understanding, people can do things like repair or even simply survey airplane engines to make sure that they are in working condition on a given morning on a given airplane. Without them, they can follow checklists and do the kind of basic reading that Mr. Barton tells us they know how to do, but not interpret what they are seeing, and they are likely to follow routines in ways that produce errors, sometimes very grave ones, elsewhere in the system.

So we face a machine-rich, intelligent machine-rich future, and for that we need intelligent people and people who are able to learn on the job. It is not going to be possible to be trained in high school for a job and then carry out that job for even 5 or 10 years, much less the rest of one's worklife.

So the traditional relationship of education to work, the one we have inherited from the Smith-Hughes Act, the Vocational Education Act that was passed in 1971, can't work. We can't imagine directly training people for jobs in our public schools on any broad scale. That can only work when there is slow change, and we are not going to face a future of slow change, and it can only work when the technology of work is simple enough and safe enough to be within the cost and safety tolerances of the school.

Neither of those conditions holds, and the traditional view that no one here has expressed but that is still expressed in many quarters, that what we need is good, old-fashioned vocational education, simply can't work for the kind of future we face.

Instead, we need to educate people who are going to know how to learn in the corporate education classroom and the technical training classrooms and just on the job, just on the floor of the workplace, whatever kind it is.

Now, we have got an education system that hasn't been developed to do that. We inherited, just as almost all industrial countries did, two quite separate educational systems. One was designed for the elite. That was designed and intended to train people to think and to reason and to reach up to these middle to higher levels or just above the middle to the higher levels that have been described, and they aren't even really very high.

But we also had a mass system. The mass system was intended for everybody, at first only through elementary school and later extended into the high school. Its goals did not include trying to teach people these kinds of higher level thinking and information processing skills. The goals were simple computation, reading predictable tests, reciting civic and religious codes in the past, and so on, the very kinds of goals that would produce the good scores at the bottom levels of the national assessment. The goals for the mass education system, which is the bulk of our education system, didn't include interpreting unfamiliar texts, constructing convincing arguments, understanding abstract systems, using complex symbolic systems, or any of the things we have been talking about.

So while we have increased the number of years that people go to school dramatically over a 60-year period, most students still go through a curriculum mainly focused, and in some cases entirely focused, on the kind of old basics, the routinized computational sort of basic decoding or reciting text skills. They are not really given a chance to learn thinking and reasoning or learning how to learn.

This is what we have to change, and it is a very big challenge. This is what I mean by the new basics. It is really a new educational agenda. It is not a new idea to include these thinking skills in somebody's curriculum, but it is a new idea to include it in everybody's curriculum—the poorest children, the children of immigrants, non-English speakers, the inner city children, and so on.

It is quite a new challenge to develop a pedagogy and a set of attitudes that will try to develop these skills in all individuals, not just an elite. To do it, what we are going to have to do is think about turning the whole goal system of American education to this new basics agenda. It means we sort of can't go back to basics for the elementary school and start thinking about higher level skills afterwards.

A good deal of research in the last few years has established that reading is thinking, that if you do reading to understand a text you have got to make inferences.

The very children who are having trouble doing math are the very children who just try to memorize the rules of arithmetic. The children who try to memorize by brute repetitions are the very ones who won't succeed even in memorizing.

So there is virtually no area of learning that we can afford to treat as relegated to the old basics. We have to turn the whole school system around from the elementary school up.

This is a very major challenge that is going to require a massive reorientation and reeducation, then, of teachers, of administrators, and of those who work with them to make some of these things possible.

One of the things that has to be done very, very urgently to make this possible is to rework the way in which we hold schools accountable for their results.

Very reasonably, Americans want some accountability. They want to hold educators accountable for the expenditure of tax dollars on education. The most common way we do it is by giving standardized tests, and those tests are multiple choice tests, pencil and paper ones that have been referred to.

Now, these tests, it turns out, actually suppress efforts to move to the new basics agenda. That is because they favor factual knowledge. They are able to test whether people know who wrote "The Brothers Karamazov," but not whether somebody can read "The Brothers Karamazov" and understand it in great depth.

They are able to test whether students have memorized some scientific theory, but not whether they are able to handle equipment in the laboratory in an intelligent way.

What happens, though, especially when as now in many states the legislatures are demanding routine testing of all students every year on the kinds of tests that favor this kind of low level knowledge, is that educators turn their attention to that. They slight, even totally avoid, the kind of higher order skills that will not be reflected on these test scores.

So we have got to find ways of changing our methods of assessment. The technical knowledge for doing this already exists.

We know how to make open-ended assessments reliable enough through appropriate uses of panels of judges and statistical crosschecks. We know how to keep costs under control by sampling procedures that look at how the system is doing but not at how every child is doing each year.

What we have to do is pull that kind of information together and convince educators—essentially via changes in the way in which legislators look at the need for assessment—that those alternatives will provide the kind of information that is needed for adequate accountability in the American system.

If we don't do that, we are going to get more and more of the lower levels that have been talked about here and certainly no improvement, maybe actually declines in the ability of our students to do the higher level thinking.

I have a few words in the written testimony about the need to change technical education, also. I don't think it belongs for the most part in the schools, but I have spent some time looking into what is going on in corporate classrooms, in the military, in training institutes, and the like in the last year or so, and with some expectations it looks as if the culture of the school, a kind of theoretical culture rather than a hands-on one, has penetrated even on-the-job training, and it is not working very well in most cases.

There is this combination of school type instruction—this is very striking even in on-the-job military training—school type instruction, some chance to watch, but very little guided practice, very little hands-on experience, and it is not working well in many cases.

[The prepared statement of Ms. Resnick, together with an addendum, follows:]

## PREPARED STATEMENT OF LAUREN B. RESNICK

Mr. Chairman, members of the Committee, I am Lauren B. Resnick, Director of the Learning Research and Development Center (LRDC), Professor of Psychology at the University of Pittsburgh, and immediate past president of the American Educational Research Association. I have been asked to speak to you today about the nature of the skills most likely to be needed by American workers in the future and about the capacity of the American education system to produce students with those skills. In doing so, I will emphasize the nation's urgent need for skilled workers who are thinking workers and why we must now turn to new basics in American education.

What kind of education must America provide its citizens if we are to retain--or, some would say, regain--leadership in the world and continue to enjoy the kind of life we value? To answer this question we must first consider the changing nature of the American economy and its implications for work and civic participation. The shape of the future is already visible. Over the next two or three decades, economic, social, and political life will be profoundly shaped by new technologies of production and communication. To utilize these new technologies fully and in ways that enhance rather than threaten political democracy, we will require a population that is literate in the deepest sense of the word, a population able to modify and adapt to the technology as needed, a population able to understand and thereby maintain appropriate control over a complex economic structure. Our population must be able to learn "on the job" as conditions change, to respond productively to new opportunities and challenges, and to deal with complexities that require thinking and reasoning powers far beyond the routinized skills of traditional "basic education." To meet this challenge our education system will have to develop a "new basics" adapted to the future in order to prepare workers and citizens for a technically complex world in which thinking and judgment, along with discipline and perseverance, will be needed everywhere.

### The Pervasiveness of Intelligent Machines

A primary feature of the coming world of work will be intelligent machines everywhere. Work at all levels of skill and in all parts of the economy will involve interacting with these intelligent machines. Work has always involved the use of tools; the nature of the workplace has always been shaped by the nature of the tools and technology available. What will be different in the future, what is already happening now, is that people will interact with tools not only as they *produce*, but also as they *plan, judge, evaluate,* and *design*. These tools of the future will be "smart" in ways that do not so much replace human intelligence as interact with it by shaping, enabling, and sharing the mental as well as the physical aspects of work.

In every sector of the economy--in power plants and factories, in repair shops and service industries, in the military and in civilian life--work will involve the intelligent use of intelligent tools. In most kinds of work, the intelligent tools that shape the nature of work will require thinking users capable of interpreting complex verbal, graphic, and quantitative signals. With appropriate education, people's working productivity will extend well beyond what it would be without these intelligent tools. But to use them well, people will need skills of a kind that are not now well developed in our educational system. For example, the manager who uses simulation tools to develop business forecasts and strategies shares an intellectual task with a computer and its software. What the manager needs to know to engage in this activity is different from what she or he would have had to know as a manager making similar strategy decisions 30 years ago. Today's managers need to know more now about how to *interpret* complex multivariate statistics and graphs, and may well use more complex economic theory. But they need to know less about computation or about how to *carry out* statistical analyses. At middle and lower levels of the workforce, too, people will need to know less about how to perform routine operations--whether mental or physical--and more about how to use information and adapt their activity to the conditions they encounter.[1] To use the intelligent tools that will dominate work life, people will have to know something about how those tools work, so that they can query them and adjust them appropriately. Because the tools provide symbolic information, workers will need to know how to use displays and information of much greater variety and sophistication than in the past--including quantitative information and graphics of many kinds. They will also need to know a great deal about the "real world" that the symbols put forth by the intelligent tools refer to, so that they can make sensible interpretations of information and even sometimes "override" what a computer tells them.

## Dealing with Breakdowns: The Necessity of Understanding the System

A second feature of the future world of work derives from the predominance of complex machines in that world. There will be breakdowns. Complex systems will not always function smoothly. When breakdowns occur in any system, people have to do exactly what machines cannot: step outside the system and reason about it. People using various mechanized and computerized systems will need to know how to recognize breakdowns, how to work around them temporarily, how to repair them, and, ultimately, how to design better systems. For safety and efficiency in work, we will need people at diverse levels who can go beyond the routine when necessary. These capabilities cannot be limited to those "at the top"--the traditional decision makers, including engineers and system designers. Productive responses to breakdowns will be required everywhere in the working system. Modern management principles stress the fact that productive ideas are likely to come from workers throughout a system if these workers understand what they are doing and expect to be taken seriously. Cognitive research tells us that people work best with and within a complex system if they have a "mental model" of the system--that is, an idea of all the parts of the system, what each does and how they work together, how changes in one part of the system cause changes in other parts. This mental model permits flexibility in responding to unexpected situations. It also provides a kind of insurance against actions that may appear to follow the prescribed routine or solve a local problem but will in fact cause difficulties--perhaps grave ones--somewhere else in the system. In studies of many kinds of jobs, for example, airplane mechanics and medical technicians, the power of mental models for guiding productive work has been demonstrated. Routinized performance rules are not adequate for truly productive workers. People will work best and produce more when they understand what they are doing.

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[1] See Herbert A. Simon, 1977, *The new science of management decision*, for a discussion of how the growth of intelligent tools is changing cognitive demands at all levels of the workforce.

### Rapid Technological and Social Change: The Need to Learn "On the Job"

A third feature of the world of work in the future is that it will not be static. People will not enter a job in their twenties and remain in it, doing more or less the same things, for the rest of their working lives. People will have to adapt during their working lives to a number of different work activities. This means that schools will not be able to prepare people for a specific job as they have in the past. Work preparation in school will have to mean learning abilities and attitudes that then enable one to learn new work skills in the future. On-the-job learning will be a characteristic of future work.

### Need for Scientific and Technological Infrastructure

When work and economic production involve complex machines, the ability to design, build, and maintain those machines is critical. The general scientific infrastructure that provides the basis for technological advances must be maintained. We must produce more and more committed scientists. To an alarming degree, we now are "buying" our scientific and technical capability abroad. Our ability to do this will decline as other countries develop increasingly attractive environments for scientific and technical work. We need to "grow our own" scientific and technical competence, and this means cultivating both the intellectual ability and the taste for work and discipline that characterize the successful scientist and technologist.

## What Kind of Education Does This Imply?

What does the foregoing suggest for how the education system should function? First, the educational system must focus on teaching people how to learn and not the acquisition of fixed, static knowledge. It must teach people to learn on the job rather than teaching specific job knowledge. Second, it will need to go beyond the traditional routinized basic literacy skills to prepare people for a complex world in which their intelligence as well as their labor is applied.

## Beyond Vocational Training

Preparing people for the specific contexts in which they will work has been part of America's vocational education agenda since the Smith-Hughes Act of 1917. At the heart of the vocational education movement was the idea that the schools should provide students with direct experience in the use of the same kinds of machines and in the same kinds of tasks that they would encounter in jobs after school. Whatever the merit of such a plan may have been in the first part of this century, it is no longer applicable. Apart from the classic criticism that such education denies opportunity by taking some children out of high-opportunity and intellectually demanding curricula, the job training agenda fails today because of the sheer impossibility of preparing people for specific jobs.

The direct training approach can work only when there is relatively slow change in the technological and social structure of work and when the kinds of machines and equipment and working conditions on the outside are within the economic and safety tolerances of the education system. If the first condition isn't met, schools will be training people in highly specific contexts which will not exist by the time they go to work. If the second condition isn't met, schools will not be approximating the conditions after school enough for the training to count as direct job preparation.

So we must conclude that education in schools must focus not on training people for jobs in any narrow sense but in educating them in ways that will make them capable of learning effectively throughout their working lives. It must also help them develop the kind of broad understanding of the systems they participate in that will enable them to function productively even when breakdowns and changes render the normal, routine way of doing things inadequate. All workers will encounter such situations and will have to invent or learn new ways of doing things. Rather than training people for particular jobs, schools should focus on preparing people to be good at *learning* in situations of breakdown or transition outside school.

## Preparation for Complexity: Beyond the Routinized Basics

The traditional educational system--the system that we have inherited--was not designed to educate people for this kind of adaptive functioning in a technically complex environment. Like other industrial countries, America developed two educational systems--one designed for an elite, the other for the mass of the population. The mass system was designed to teach routine skills: simple computation, reading predictable texts, reciting civic or religious codes. Its goals for students did not include the ability to interpret unfamiliar texts, construct convincing arguments, understand abstract systems whose functioning is not entirely visible, develop solutions to problems. Those goals were reserved for the elite, originally in separate schools, more recently within our comprehensive schools. Despite the tremendous increase in the number of years people now spend in school, most Americans are exposed mainly or only to a curriculum focused on the routinized basics of the old mass school system. They learn--or sometimes don't--the "old basics," but they are not really given a chance to learn the new basics of thinking and reasoning and "learning how to learn." This must change. Schooling can no longer focus on the acquisition of routine forms of literacy and numeracy. It must develop what we call "higher-order" abilities for thinking, reasoning, and learning--for everyone.

These are the "new basics," and this constitutes a truly new educational agenda. While it is not new to include thinking, problem solving, and reasoning in *someone's* school curriculum, it is new to include it in *everyone's* curriculum. It is new to take seriously the aspiration of making thinking and problem solving a regular part of a school program for all of the population, even minorities, even non-English speakers, even the children of the poor. It is a new challenge to develop educational programs that assume that all individuals, not just an elite, can become competent thinkers.

Adoption of the new basics means teaching higher-order thinking skills to a much broader segment of the population than has ever before been considered capable of such learning. Today we are committed to educating all Americans in the secondary schools and a large proportion (higher than in any other country in the world) in some form of postsecondary institution. These students' educational needs cannot be met by traditional vocational programs that no longer prepare students for productive participation in an increasingly diversified economic environment. Employers today complain that they cannot count on schools and colleges to produce young people who can move easily into more complex kinds of work. Employers are seeking general skills such as the ability to write and speak effectively, the ability to learn easily on the job, the ability to use quantitative skills needed to apply various tools of production and management, the ability to read complex material, and the ability to build and evaluate arguments. These abilities go well beyond the routinized skills of the old mass curriculum. In fact, they are much like the abilities demanded for college-bound students. Teaching such competencies to the mass of students remains a considerable challenge--one that will require a redirection of education over the next decade.

## Some Policy Recommendations

### The Schools Need to Focus on Higher-Order Skills Throughout the Educational System

Everyone agrees that school is the place to build basic skills. Everyone also agrees that higher-order skills--thinking, reasoning, problem solving--should become more central goals for American schools. Implicitly at least, many people seem to assume that the best way to accommodate these two educational ambitions is to focus elementary schooling on the basic skills and introduce the higher-order skills in middle or high schools, after the basics are in place. On the face of it, this seems a matter of plain common sense. Yet recent research on skill and subject-matter learning gives us good reason to believe that this "First . . . then . . ." strategy is a poor way to ensure basic skill learning and may also severely limit the possibilities for cultivating thinking abilities in our schools.

In the last ten years, cognitive scientists (a loose federation of psychologists, computer scientists, philosophers, and linguists interested in the nature of human thinking) have devoted enormous effort to research on the mental processes involved in reading, writing, and mathematics--the "three R's." For each of these basic skills, the research shows that there are important components of inference, judgment, and active mental construction that force us to give up traditional views of these basics as simply routine skills--even for the youngest children or the weakest students.

Consider reading. A large body of research on reading comprehension now shows that comprehension is *always* based on processes of inference in which readers use their prior knowledge to interpret and give meaning to the words that are written. The reason for this is that normal, well-written texts are, by their nature, incomplete expressions of the author's ideas. The texts leave out some things that are essential on the assumption that readers will fill them in. If this assumption is not met, comprehension fails--even if every word and every sentence have been understood individually. This process of filling in normally goes on so automatically that people are unaware that they are doing it. Yet studies of eye movements during silent reading, of pause patterns as texts are read aloud, and of the disruptions in comprehension that can be caused by minor modifications at key points in texts, provide convincing evidence of inferential work in readers' efforts to make sense of even quite simple texts. Research shows that children who are poor readers do not do this inferential work, often do not know when they have failed to comprehend, and are generally unaware that they are expected or allowed to do any personal mental interpreting as part of the process of reading. In writing, too, many children treat the process as a mechanical one of writing down everything they can think of that might be relevant to a topic, not as a process of solving the problem of shaping a communication to an audience.

In mathematics, recent research suggests that the most successful learners, even in elementary school, understand the task to be one of *interpreting* numbers, not just doing routine calculations. There is now abundant evidence that young children, even before attending school, develop robust, although simple, mathematical concepts and that they are able to apply these concepts in a variety of practical situations. Yet school mathematics is decidedly difficult to learn for many children. The difficulty comes in large part from children's failure to recognize and apply the relations between formal rules taught in school and their own independently developed mathematical intuitions. Encouraged by the way math is often taught, they treat school math as a matter of memorizing rules and manipulating symbols. Many children remain unaware that they can make sense of the rules by drawing connections between symbols and the mathematical principles they apply intuitively in practical situations. Evidence for this claim comes from detailed analyses of the kinds of errors children make in doing calculation, together with observations and interviews with children about topics in the elementary school curriculum. According to this evidence, failure to engage in "higher-order reasoning" about quantities causes failures in learning the "basic" skills of calculation and number usage.

Much the same story about the importance of reasoning, judgment, and inference even in apparently simple or basic performances can be told about the rest of the elementary school curriculum. Research on memorizing, for example, shows that even in "learning the facts," mental elaboration and judgment are required for success. How much children remember is dramatically affected by how they organize their knowledge of a topic. Simply rehearsing a list, for instance, is better than doing nothing at all, but it is the least effective of all ways of learning information. The basic skills of studying and remembering information require that one seek to actively organize and interpret information--even in first grade.

What is more, learning new information often requires constructing theories about why things work the way they do. To learn a new science principle--for example, the fact that the speed at which objects fall is not related to the weight of the objects--requires confronting a prior contradictory belief held by most children (and many adults). This type of learning apparently requires that the child build up a mini-theory to explain the new fact. Otherwise, evidence shows, children will mouth the taught principle on tests, but apply what they believe to be the truth--that heavier objects fall faster--whenever they have to deal with actual falling objects.

To summarize these research findings, then, one can't effectively memorize without organizing knowledge. Facts acquired without structure and rationale will disappear quickly. Children can't understand what they read without making inferences and using information that goes beyond what is written in the text. They can't become good writers without engaging in complex problem-solving-like processes. Basic math skills will not be learned well if children try only to memorize rules for manipulating written numerical symbols. All of this means that the things we are accustomed to calling higher-level skills are involved in the most basic competencies.

It is, of course, easier to propose that higher-order thinking skills be made a part of basic skill instruction than to say exactly how this can be accomplished. It seems clear that there are two things *not* to do. The first is to treat basic skills as matters of rote drill in which teachers assign exercises, prescribe right answers, and encourage the belief that alternative interpretations, challenge, and argument are to be left to one's elders. The other is to encourage creativity and problem solving without showing children how to do things properly, without demanding real work, and without setting criteria for well-disciplined thinking. Neither the "traditional" classroom of recitations and drills, exercises, and grades, nor the "progressive" classroom of unstructured investigation--if either ever existed in reality--is likely to succeed. We cannot, in other words, simply expect to use the methods of the past. New methods, suited to our new understanding of the nature of basic skills, will have to be developed.

"Back to basics" will not work. There is little to go *back* to in terms of pedagogical method, curriculum, or school organization. The old tried and true approaches, which nostalgia prompts us to believe might solve current problems, were designed neither to achieve the thinking literacy standards we need today nor to assure successful literacy for everyone. Whatever the rhetoric of the common school, early dropping out and selective promotion were in fact used to escape problems that must now be addressed through a pedagogy adequate to today's aspirations. While we may be able to borrow important ideas and practices from earlier periods, there is no simple past to which we can return.[2]

## New Forms of Assessment and Accountability Are Needed

Serious efforts to redirect American education toward the new basics of higher-order literacy, thinking, and reasoning will require new attention to the problems of assessment and accountability in the education system. Americans quite properly want to know how the educational system that they pay for with their tax dollar is performing. The most common way of exercising oversight and demanding accountability is to impose demands for regular testing and evaluation--usually in the form of standardized tests. These tests, however, can have the effect of suppressing efforts to expand higher-order skill teaching. Most current tests favor students who have acquired lots of factual knowledge and do little to assess the coherence and utility of that knowledge or the students' abilities to use it to reason or solve problems. To the extent that educators are motivated to produce high test scores, they will orient their teaching to routine skills and knowledge of the kind that tests favor and will avoid higher-order skills.

As interest in thinking and reasoning skills has increased, there has been a growing effort to include thinking and reasoning in the batteries of tests given to students. Several states now have or will soon have such tests as part of their state competency testing programs. So far, however, these tests appear to be very limited vehicles for assessing or promoting the kinds of higher-order thinking discussed here. They do not provide the scope or the opportunity for students to carry out extended analyses, to solve open-ended problems, or to display command of complex relationships, although these abilities are at the heart of higher-order competence.

There are two main reasons that legislators--and some educators--tend to favor today's standardized tests. One is that they appear to be more "objective" and free of bias than assessments in which students make extended responses and which must then be judged and rated. The second is that standardized tests are less expensive to administer and score than any more open-ended form of assessment. Ways exist to respond to both of these needs without sacrificing higher-level skills. Open-ended assessments can be made reliable enough through appropriate use of panels of judges and statistical cross-checks. Costs can be kept under control by sampling procedures that avoid testing every student every year. Those responsible for education policy need to make sure that these alternatives to current assessment practice are thoroughly developed and evaluated if they want the new basics to take hold in American education.

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[2] For a fuller discussion of higher-order skills and how they can be taught, please refer to the attached Addendum, which summarizes a recent report on the teaching of thinking that was prepared for the National Research Council.

### Technical Education Must Be Improved Too

While the school system focuses on higher-order skills for thinking and learning, new approaches to on-the-job technical education must also be developed. The traditional approach to on-the-job training was apprenticeship, a system in which a beginner in some field worked in the shop or laboratory of an established expert and gradually acquired various elements of skill. Apprenticeships were common in many fields--including "intellectual" ones such as law and medicine--but have become far less common over the course of the past century, especially in America. For the skilled trades, the story of the rise of vocational education in the schools is simultaneously the story of the decline of apprenticeship. As the ideology of more schooling for more people took hold and as the structures of the workplace changed, we gave up opportunities for situated learning in the workplace in favor of school-based vocational education. The school-like character of job training has persisted even when the training is carried out by employers in job-specific programs or in "corporate classrooms."

In the military, in community colleges, in proprietary training institutes, the classroom culture dominates, and difficulties arise in the transition to actual job functioning. As an example, consider a military training program for aviation equipment maintenance experts. Individuals first take theoretical courses that provide no hands-on experience with equipment. Then they are placed "on the job" to observe experienced airmen diagnosing and repairing equipment faults. They receive no sequenced practice and few opportunities to try their hands at diagnosis or maintenance activities in an on-your-own-but-supervised manner. This absence of key apprenticeship opportunities seems typical of work conditions in a high-technology environment. It may take hours or days for a complete diagnosis to be developed; and some problems may not occur at all during the rather abbreviated course of on-the-floor training; thus trainees cannot be exposed to the full range of conditions they may encounter as working technicians. In addition, the environment is dangerous and expensive if mishandled; it is not reasonable to allow apprentices to practice making errors. Finally, the mental activity of expert equipment diagnosticians is not visible, and so observation alone is unlikely to support the kind of conceptual development that is desirable and necessary.

This combination of school-type instruction and unstructured observation and practice produces unsatisfactory learning results. Many trainees never learn adequately, despite having mastered the classroom portion of instruction. Technical education seems to be suffering from too much adherence to forms of instruction borrowed from the traditional classroom. Adoption of computer-aided instructional systems and even substantial "individualization" hasn't changed technical education as primarily oriented to mastery of the symbolic and theoretical. There is inadequate engagement with the tools and "stuff" of work, and more time is given to theoretical explanation than to the building of truly expert performance skills. New forms of on-the-job training suited to developing modern technical competence are badly needed.

## An Expanded Research Base is Needed.

None of what I have recommended is likely to come to pass without considerable investment in educational research and development, an investment proportionately equivalent to what is spent in developing new industrial products or new medical technologies.[3] We can expect to succeed in increasing higher-order skills learning only to the extent that we know more than we do now about what it takes to be a good learner in work settings.

It has become so commonplace to call for educating students in learning skills that we forget that we know very little about what it takes to be a good learner outside of school. A few research studies have begun to build a picture of how people actually work and function in their normal out-of-school lives. But these studies focus almost entirely on how people function in smoothly operating work situations--where they already know the routines and are skilled in using them. Studies have not yet been made of people coping with situations of breakdown or transition.

On the other side, most research on learning skill focuses on school learning. We know a good deal about the differences between good and poor readers, about successful and less successful studiers, and the like. But we don't yet know how these abilities translate to learning in practical settings or on the job. Research of many kinds will be needed to bridge this gap: studies of learning in the world of work, research on how learning abilities develop, development and testing of programs for teaching thinking and learning skills, development of new forms of testing and assessment, and, finally, research on how to educate and re-educate American teachers to participate in teaching the "new basics" to all Americans.

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[3] "In this fiscal year--FY 1987--the federal government will allot $61 billion for research and development. Of that amount, 61.2% will go for military research, 9.3% for health, 8.1% for energy, 6.6% for NASA, and 0.2% for education."--from Mary Hatwood Futrell, President of the National Education Association, "Restructuring teaching: A call for research," *Educational Researcher*, 1986, *15*(10), 5-8.

# Addendum

## Education and Learning to Think:
## Summary and Conclusions
## from a National Research Council Report[4]

### What are higher-order skills?

*Higher-order thinking is difficult to define, but easy to recognize when it occurs.*

Higher-order thinking involves a cluster of elaborative mental activities requiring nuanced judgment and analysis of complex situations according to multiple criteria. Higher-order thinking is effortful and depends on self-regulation. The path of action or correct answers are not fully specified in advance. The thinker's task is to construct meaning and impose structure on situations, rather than to expect to find them already apparent.

*Higher-order thinking has always been a major goal of elite educational institutions. The current challenge is to find ways to teach higher-order thinking within institutions committed to educating the entire population.*

In its origins, the mass educational system was concerned with routine competencies such as simple computation, reading familiar and predictable texts, and acquiring well-defined vocational competencies. It was not considered necessary or possible for all students to learn to interpret complex texts, write extended arguments, or develop original solutions to problems. However, changing economic and social conditions are now creating a demand for these abilities in all citizens, and schools are seeking ways to cultivate thinking skills in all students. No educational system has ever been built on the assumption that everyone, not just an elite, can become competent thinkers. We must view this new challenge as an invitation to inventive and very demanding educational reform.

*Higher-order thinking is the hallmark of successful learning at all levels--not only the more advanced.*

The challenge to reform comes at a time when cognitive research provides an important reconceptualization of the nature of thinking and learning that can inform and guide educational work. The most important single message of this body of research is that complex thinking processes--elaborating the given material, making inferences beyond what is explicitly presented, building adequate representations, analyzing and constructing relationships--are involved in even the most apparently elementary mental activities. Children cannot understand what they read without making inferences and using information that goes beyond what is written in the text. They cannot become good writers without engaging in complex problem-solving-like processes. Basic mathematics will not be effectively learned if children only try to memorize rules for manipulating written numerical symbols. All of this implies that "basic" and "higher-order" skills cannot be clearly separated.

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[4] Resnick, L. B. (in press). *Education and learning to think.* Washington, DC: National Academy of Sciences Press.

*Good thinking depends on specific knowledge, but many aspects of powerful thinking are shared across disciplines and situations.*

A central issue, both for educational practice and for research that can guide that practice, is whether thinking and learning abilities are general--that is, applicable in all domains of thinking--or are specific to a particular domain. The evidence shows clearly that thinking is driven by and supported by knowledge, in the form of both specific facts and organizing principles. This knowledge, together with the automated recognition and performance that comes with extended practice, allows experts in any field to engage in more sophisticated thinking than people new to the field. At the same time, many aspects of thinking are shared across fields of expertise. These include a wide range of oral and written communication skills, mathematization and representational abilities, principles of reasoning, and skills of argument construction and evaluation. These can be thought of as "enabling skills" for learning and thinking. Generally speaking, people rely on powerful but only narrowly applicable thinking methods in domains in which they are expert and use broadly applicable but weak methods for learning and thinking in fields they know little about. Good thinkers need both the powerful but specific and the general but weak kinds of skills.

## Can higher-order thinking be directly taught?

*Elements of thinking are clearly teachable.*

The programs reviewed here show that many components of thinking can be effectively taught. That is, there is evidence that the particular performances taught in the programs are in fact learned by students. The kinds of components that have been successfully taught include generating multiple ideas and alternative viewpoints on a particular topic, generating summaries, skimming, figuring out word meanings from context, solving analogies and logical puzzles, and detecting logical reasoning fallacies.

*However, an integrated ability to learn, think, and reason and a broad disposition to engage in higher-order thinking are not necessarily ensured by acquiring particular components of thinking.*

We need direct assessments of the kinds of complex reasoning and problem-solving skills that constitute higher-order thinking. Most evaluations have not made such assessments. They have relied instead on assessments of particular elements that are taught or on "indicator" tests--such as IQ or SAT scores--that are normally correlated with successful learning and thinking. However, under changed instruction and learning conditions, these traditional indicators may no longer be valid. Thus, we have less evidence than would be desirable and less than the proliferation of programs would suggest, on whether and how integrated and usable-thinking abilities can actually be cultivated.

*Only a few programs provide convincing evidence that broadly applicable and integrated abilities have been acquired.*

In the most convincing cases, improvements due to instruction have been demonstrated for reading comprehension, general grade averages, and essay writing. Some programs also demonstrate improved problem-solving or laboratory performance in specific disciplines, especially in mathematics and science, thus meeting their own goals—although not demonstrating (and not necessarily seeking) transfer to other disciplines or to practical life. A larger number of programs point to student claims that they now use the kinds of abilities taught. However, these claims are difficult to evaluate; they show that students generally feel better about their thinking and learning abilities after the course, but they do not tell us whether these improved self-assessments are in fact warranted.

*Current testing practices in American education do not provide very powerful tools for assessing the effects of efforts to teach thinking and reasoning. Testing practices may in fact interfere with cultivation of the kind of higher-order skills that are desired.*

In general, the tests used in assessing educational efforts involve multiple choice or other short, precoded answers. These tests can measure the accumulation of knowledge and can be used to examine specific components of reasoning or thinking. However, they are ill suited to assessing the kinds of integrated thinking that we call "higher order." If progress is to be made in converting American schools to the higher-order thinking agenda, we must develop forms of assessment that are more suited to the nature of the abilities we seek to teach.

### How should instruction in higher-order thinking be organized?

*A broad disposition to higher-order thinking must be cultivated.*

Isolated instruction in thinking skills, no matter how elegant the training provided, is unlikely to produce broadly used thinking ability. Thinking well requires more than knowing a selected set of strategies or techniques for problem solving and learning. It also requires knowing when these strategies are appropriate, and it requires the motivation to apply them, even though they may involve more effort than routine performances as well as some risk of social controversy. This implies that higher-order skills must suffuse the school program, from kindergarten on, and in every subject matter. Training in general skills must be supplemented and supported by application throughout the curriculum. Various subject matters in the school program should be taught with an eye to developing the powerful thinking methods used by experts in those disciplines. Students must come to think of themselves as able and obligated to engage in critical analysis and problem solving throughout schooling. The following are promising directions that educational experimentation toward these ends might take.

*Embedding instruction in thinking skills within the academic disciplines of the school curriculum has several advantages.*

It assures that there is something solid to reason *about*. It supplies criteria from within the disciplinary traditions for what constitutes good reasoning and thinking. It ensures that something worthwhile will have been taught and learned even if wide transfer proves impossible. However, there is a caveat for those who seek to embed higher-order skills teaching in the existing school program. Thinking skills tend to be driven out of the curriculum by ever-growing demands for teaching larger and larger bodies of knowledge. The idea that knowledge must be acquired first and that its application to reasoning and problem solving can be delayed is a persistent one in educational thinking. "Hierarchies" of educational objectives, although intended to promote attention to higher-order skills, paradoxically feed this belief by suggesting that knowledge acquisition is a first stage in a sequence of educational goals. The relative ease of assessing people's knowledge, as opposed to their thought processes, further feeds this tendency in educational practice.

Periodically, educators resist this pressure by proposing that various forms of process- or skill-oriented teaching replace knowledge-oriented instruction. In the past, this has often led to a severe de-emphasis of basic subject-matter knowledge. This, in turn, has had the effect of alienating many subject-matter specialists, creating pendulum swings of educational opinion in which knowledge-oriented and process-oriented programs periodically displace each other, delaying any serious resolution of the knowledge-process paradox. We cannot allow these pendulum swings to continue. Cognitive research shows the intimate relationship of subject-matter knowledge and reasoning processes. We need both practical experimentation in schools and more controlled instructional experimentation in laboratories to discover ways of incorporating our new understanding of the knowledge-reasoning connection into instruction.

*Reorienting instruction in the 3R's (the "enabling disciplines") so that they incorporate more of the higher-order processes seems a particularly promising approach to improving thinking skills.*

The 3R's of the traditional basic school curriculum can become the environment for higher order education. Effective reading, writing, and mathematics learning depend on elaboration, explication, and various forms of meaning construction. Re-orienting basic instruction in these curricula to focus on intentional, self-managed learning and strategies for meaning construction, rather than on routinized performances, will result in more effective basic skill instruction while providing a strong base for higher-order skill development in other disciplines.

*A fourth R--Reasoning--might be considered a candidate for a new enabling discipline in the school curriculum.*

Many philosophers argue that principles of logical reasoning are unitary and not specific to particular domains of knowledge. The study of reasoning, they claim, can enable effective thinking across disciplines. While there has been little empirical investigation of this claim, the hypothesis is a reasonable one and should be investigated carefully. A potential pitfall is that learning to identify reasoning fallacies--a core element of most programs in informal logic and critical thinking--may not in fact help people improve their own reasoning. This question needs careful attention, with appropriate evaluation of the extent to which students in reasoning courses learn to produce, as well as analyze, reasoned arguments.

*Links between thinking skills and motivation for thinking must be developed.*

Everyone agrees that successful educational achievement requires both motivation and appropriate cognitive activity. Yet our theories implicitly treat motivation and cognition as if they worked independently to determine the nature and extent of learning. In fact, these traditionally separate factors appear far more intimately related than most current research helps us to appreciate. However, recent research linking children's conceptions of their own and others' intelligence to the ways in which they analyze learning tasks offers a promising new connection, as does research on intrinsic motivation for learning. Active experimentation on what kinds of school activity organization cultivate motivation for particular kinds of complex and strategic learning is needed. The two concerns must be merged as this work proceeds; efforts to develop more intellectually functional motivational patterns should not become substitutes for efforts to establish specific cognitive competencies. Motivation for learning will be empty if substantive cognitive abilities are not developed, and the cognitive abilities will remain unused if the disposition to thinking is not developed.

Representative SCHEUER. Thank you very much.

I am a little bit depressed about all of the testimony this morning. You are all saying something that we have heard before. Coming at it from different ways perhaps you said it more clearly, however. Most students coming out of high school can read, write, and count but they can't really use what they read to make judgments. They can't interpret it, they can't evaluate it, they can't apply it very well to the changing scene in different situations. They aren't very good at cognitive thinking. That is pretty depressing.

Is that esentially what you are saying? Am I justified in feeling depressed?

Mr. PACKARD. They can't solve problems.

Representative SCHEUER. You know, on the Japanese auto production lines each individual worker has a chain that he can pull. What that chain does is stop the entire production line. Each Japanese worker is empowered to be an executive. He can stop the whole bloody process when in his individual judgment he feels something is wrong. That requires that very expensive process of stopping the production line.

They apparently can think cognitively, those young people in the Japanese auto factories.

I am depressed.

Mr. FOSTER. May I add to your depression? [Laughter.]

Representative SCHEUER. Please do. Make my day. [Laughter.]

Mr. FOSTER. I am going to give you an example. It is not only entry level workers but some of our "technically certified." I want to give you an example to point out how this issue is connected to so many other issues.

This is the Joint Economic Committee's Subcommittee on Education and Health. The current debate on how we are going to manage health care costs will require that transformation of the job called nurse/health consultant.

If you look at what is required of a nurse today to keep up with the latest in terms of research, to be able to extract very quickly promising practicies, recommend them, and then make sure that they are implemented, now, that is a role that is transforming the health care industry. Most of those nurses can't do it.

To add to your depression, it is not just simply the entry level people.

I guess the second thing is that if you are what you do, then who are you when you cease to do what you do. Most Americans can't even confront that. Just look at the stress that people go through in terms of outplacement.

Now, I could care less whether a 15- or a 50-year-old could tell me when Frederick Douglas was born, but what is absolutely critical is for somebody to understand who Frederick Douglas was and what he had to go through, and under what circumstances to learn how to read because if you are a person of color in this society and your self-identity is at stake, if you have not received the new basics about self-identity and who you are, then when you confront changes in your job, you in fact will not succeed.

That is even more complex.

Now, I have used the illustration of a person of color, but this applies to so many of our employees.

The last thing I would say is to emphasize this notion of experiential learning, making events learner driven, if you will.

That calls for a change in mindset. I am not sure how we do it, but I couldn't agree more that if you look at the replications of what we are doing at Aetna, when people write the history of adult education in the latter part of the 20th century, these corporate classrooms, for better or for worse, will have made a difference. If these corporate classrooms do nothing more than replicate what we know doesn't work, okay, then you have reason to be distressed.

And I will close on this point. If I ask to see your college transcript and ask you what the relationship is between the outcomes of psychology 101, classics 305, and psychology 206, perhaps you are the exception, you would not be able to make that connection. But the fact is that we put the burden on the learner to try to integrate technology and the humanities. We make it very, very difficult for that learner, when in fact we ought to try to find ways to make it easier for that learner.

That doesn't mean relaxing rigor and standards, but it is a change in attitude on how we approach education.

Representative SCHEUER. Yes, Mr. Packer.

Mr. PACKER. When we thought about this new standard, we looked for a name for it because literacy is more misleading than informative. We have talked about access skills. What are the skills that a young person needs to get access to training, to college, to the sorts of jobs that provide a living wage, not to a job that pays the minimum wage? People leave those jobs, drop out, and become unemployed. What are those necessary access skills for the sorts of jobs that people want?

They have something to do with processing information in a way that allows one to solve problems that arise at the workplace.

Representative SCHEUER. Yes, Mr. Barton.

Mr. BARTON. Mr. Chairman, I would like to enter at least a slightly optimistic note, and that is that in this record that we looked at about achieving this basic level in reading—and I know there are other areas—and the progress we have made, and seeing that in writing—even though kids can't write a persuasive letter, they have got the mechanics right, by and large. The optimistic note I find in this is that where we set the agenda we have seen results.

In the seventies, we put the schools to teaching "minimal competencies" and to raising levels at the bottom, and they did that.

From early childhood education, Head Start and chapter 1 programs in the late sixties and early seventies, where we started there, we can trace in the cohorts assessed by NAEP where the improvement took place as a result of those efforts. We only have circumstantial evidence, not direct, but we can relate improvements to what happened in those programs.

The optimistic note is that where we have given the agenda to the schools in a forceful way we have seen results.

So if we change the agenda or add to the agenda, there are possibilities, particularly when coupled with the possibilities for improving the teaching force that the Carnegie Forum, and Marc Tucker have advocated.

Mr. Foster. I should give you something to make your day a little bit more optimistic.

Hartford is one of the four or five most distressed cities in the United States and yet is a city where you have incredible corporate wealth. Eighty percent of our children in schools are eligible for food stamps. We have some schools where you have 100 percent turnover in that one school each year.

We have developed a pilot program with the Hartford Board of Education called Saturday Academy. It focuses on seventh graders who follow a curriculum of math, sciences, communication. We said to the kids, "For you to come, you have to bring a significant adult in your life."

So children and adults both come on Saturdays. The educational courses are more learner driven for the adults, who deal with a variety of issues of parenting.

For 4 years now, we've taught about 500 youngsters. It is successful.

Now why is it successful? Largely because we worked with the community, 18 months working with community leaders to get a buy in.

Second, we are not confined by the bureaucracy of the schools.

And third, we have high expectations, and we're working closely with public school teachers.

One small example, however, does not necessarily indicate that we can do it forever.

The important thing is, we know "we don't need a new diet book in order to lose weight." The issue is, do you want to lose weight? Most of the people involved with this issue, which has been around for 30 or 40 years, know it's not new. It's finally coming home to roost. We don't need more sets of guidebooks. We need implementation, and I guess it is more of a question of political will and not a question that we don't know what to do.

So I think that is the good news.

Representative Scheuer. How can schools teach this higher order thinking? Can schools be expected to do more than teach kids to read, write, and count? Can they be be expected to teach kids how to interpret that information, to think abstractly, to engage in cognitive processes, so as to process all that information?

If the ability isn't there, can the schools stimulate it, nurture it?

Ms. Resnick. Ability is created within large boundaries that are set by inheritance and family. It's certainly true that, first of all, what a child has at birth, and second, what a child has in the first 4 or 5 years, will greatly affect what he or she can learn, but the windows of that setting are very broad.

This is simply good biological theory. You don't even need to be a strong environmentalist to believe this. The windows of having an effect through our institutions are enormous, and what we've got to do is work on where we can have an effect, because the possibilities are very large. We know schools can do it, because there is case after case of individuals who will succeed and of institutions, other than schools, succeeding.

The problem we have is that what those special success stories may be doing is finding a minority of people, both teachers and students, who are particularly motivated. The big task is to figure out how to loosen up the whole institutional structure, and it is not going to happen overnight, but it can happen. We have to get rid of the road blocks—tests are one of them—for those who don't have any faith in their own ability to think. After all, think of where teachers come from. They come through the very system that we are complaining about.

Representative SCHEUER. And they have not performed as well as most of the other college students.

Ms. RESNICK. In many cases. So we first have to build a group of teachers who will become the striking force for change and help to their colleagues over a period of time, and we've got to put some real power in their hands to be able to develop good ways for working and then to help train their colleagues.

The same idea of the Japanese autoworker who can pull the chain has to also be applied to the teacher. We've got to find those who can do this kind of thing and help them to develop their skills even more and then put them in positions where they can influence their colleagues.

We have to bootstrap. That is how it has to be done.

Mr. FOSTER. Your colleague, Congressman Hawkins, 2 weeks ago, at the Congressional Black Caucus weekend, handed out about a 15-page xerox of how to make effective schools work. So we know, we literally know how to do that.

The question is, Do we want to do that?

Second, I would hope we wouldn't get bogged down on focusing on the reform of public and elementary schools, because that is not going to deal with my adult learners. We are talking about between now and the year 2000.

Where am I going to get the assistance from the universities and scholars who will focus on how adults learn best in the work context?

I am in the trenches. I believe in experimental learning. I can't find one major university where adult learning in the workplace is a focus. There may be one or two that have emerged in the last year. I think I would have heard about them.

Representative SCHEUER. Do you want adult education at the university or adult education at the workplace?

Mr. FOSTER. No, we need to find universities who have resources that they can devote to the creation, preservation, and transmission of knowledge about how adults learn best in different settings.

Representative SCHEUER. In the workplace?

Mr. FOSTER. Preferably, in the workplace, but in other settings, but basically, to help us transfer the knowledge they may have created to the kinds of situations that we are in now.

Representative SCHEUER. So it is both how you teach people to read, write, and count and even more importantly, how you process that information?

Mr. FOSTER. If you can tell me something, if you'd take the knowledge of adult development, what we know about adult learning, particular kinds of tasks and match them with various learning styles and technologies, that is what I am looking for, people could pull that body of literature together and suggest promising practices.

Ms. RESNICK. Let me suggest that what is needed is to produce that body of literature. It doesn't really exist. What exists is a pretty solid literature on learning that is really school based, and virtually nothing—I have searched it, in the last year—on how that functions outside school. Astonishingly enough, we really know, in a scientific sense, very little. There is an enormous research agenda that needs to be pursued.

Some of this can be done by will and effort, and some of it is going to have to be done by understanding better what the work setting is like.

We do have some good research now that describes competent workers—what they know and what their information processing needs are like; but it is not enough. It's on a very few jobs, and we don't know how to generalize from those specific cases yet, but we do know how to do that stuff.

Representative SCHEUER. Mr. Foster, in Aetna's education classes for its work force, do you teach reading, writing, and arithmetic?

Mr. FOSTER. Yes.

Representative SCHEUER. Where do you teach these critical faculties? Do you teach information processing? Do you teach, in effect, logic and synthesizing knowledge and applying knowledge?

Mr. FOSTER. Yes.

Representative SCHEUER. You do all these?

Mr. FOSTER. Yes. And we are searching for ways to try to do it better and how we can apply principles of experiential learning. We send our instructors to whatever universities, whether it is David Kolb or others who are expert in the area. We are trying to work with Mr. Barton's colleagues to try to take those scales for the national assessment of educational progress and see if we can't tailor them to specific jobs within Aetna, so that we can better access people and do it in a way that is not threatening.

So, yes, we are trying to do that.

Representative SCHEUER. Mr. Packer.

Mr. PACKER. We, in the demonstrations that are going to be running in New York, are going to be teaching people with limited English-speaking skills. We will teach the mysteries of, for example, invoice in which a sheet of paper—which has no prose information on it—tells a whole story about a shipment, if you know how to interpret it. An invoice has letters like "Qty," and, in the column underneath that abbreviation for quantity, it tells you how many of each sort of thing you should expect. If you are in a shipping room and you know how many items should be there, then you can tell whether the shipment matches what was ordered. The shipping clerk must be able to handle a telephone conversation about that shipment, know when it was ordered, what was the price, what's the discount, and what to do when something listed on that piece of paper—the invoice—is not found in the physical shipment.

We are going to be using technology for those purposes, and I think that is an important dimension to your deliberations.

Professor Resnick has talked about intelligent machines being in the workplaces. I think the great opportunity, the great place to find optimism in this pessimistic picture, is the use of intelligent machines in the school, but perhaps more importantly, in workplace training.

It is incredible to ask a woman who has young children and who has just gotten off welfare, to commute in New York, 45 minutes a night to go to adult education, and yet that is what we do, when we could, in fact, have distributed education and put the learning device right at the jobs, so if the employer will give some free time, the woman doesn't have to arrange babysitting and take the subway for that period of time, in order to learn these new skills.

Representative SCHEUER. Professor Resnick, how do we know that the vast majority of young people are ever going to be able to master these so-called new basics? There's some percentage of them that won't ever be able to process the information.

Ms. RESNICK. Sure, but it is likely to be the 5 percent or so, or maybe 10 percent, if we have to live with that, who are now not learning the old basics.

Representative SCHEUER. Who aren't even learning the basic skills or reading, writing, and accounting?

Ms. RESNICK. Sure. We don't know the answer to your question in any precise terms, because nobody, with the possible exception of the Japanese, and we are not really sure about that, has ever really tried the kind of agenda that we've been talking about.

Representative SCHEUER. Has any country done a better job in teaching the new basics?

Ms. RESNICK. It may be that Japan is doing it. We may also just be sort of romanticizing from the stories we have heard. We really don't know. The Japanese are extremely self-critical. They do not think they are doing particularly well, and it may well be that they have their own problems that we don't really know much about. That is the only place, I think, that might have been trying, over the past 10 or 20 years.

Representative SCHEUER. Has any other country with a large immigrant population—in other words, the kind of heterogeneous population that we have—done better than we have in integrating their new citizens into the education mainstream and not only making them literate but functionally literate?

Ms. RESNICK. Yes. I'm getting prompts here.

Representative SCHEUER. France and the Algerian population? Germany and the Turkish population?

Ms. RESNICK. No. I've lived in France and worked there. France is doing very badly.

Representative SCHEUER. What about Germany and their Turkish population?

Ms. RESNICK. They're doing badly with their Turks. They leave them out of their statistics. They are not counted as citizens, even if they've been born there. France at least counts them as citizens. There is a real political problem.

Representative SCHEUER. How about England with their Pakistanis? Do they do a better job?

Ms. RESNICK. I don't think so. The case that has just been whispered that you might want to study is Israel, which has certainly had a bigger proportion of immigrants, many of them very, very undereducated, than any country.

Representative SCHEUER. Immigrants from Stone Age civilizations.

Ms. RESNICK. Exactly. That may be worth looking at. I don't really know the answer.

Representative SCHEUER. Well, Israel has something called the IDF, which transform these kids from a Stone Age civilization.

Let me translate that. It is the Israeli Defense Forces. The young people serve 2 to 10 years in the Israeli Defense Forces, and they come out modern people.

Ms. RESNICK. Right, but the Israelis use as a criterion of educational failure not making it into IDF, and I don't know what that failure rate is.

In other words, there are some people in Israel who are not accepted into IDF.

Representative SCHEUER. Because they are functionally illiterate?

Ms. RESNICK. Essentially.

Representative SCHEUER. Or actually illiterate?

Ms. RESNICK. I don't know. I just know that there is a criterion.

Representative SCHEUER. It was my impression that they took those kids and gave them a pressure cooker course in literacy before they came out.

Ms. RESNICK. They certainly try to take almost everybody in.

Representative SCHEUER. It is a shame that our defense forces never accepted the same challenge. They've always said they didn't have the resources to do it.

Mr. BARTON. I don't think we've had to take them in recently, Mr. Chairman. We did it in World War II with illiterates, with crash courses, at the time of the Battle of the Bulge, and developed special instructional material packages, using comic books. And the record of those illiterate battalions when they went in, the retrospect was pretty good.

Representative SCHEUER. It was pretty good in an age when they were using very unsophisticated technology—when you just gave them a rifle.

But today, when they are called upon to use very sophisticated technology, it is a much bigger problem.

Let me ask this, are we spending a lot of resources on vocational education in secondary schools, where, unfortunately, too much of the time we are training carriage makers and buggy whip manufacturers? Should we take the resources that we put into Voc Ed at the secondary level and put them into a much more sensitive, a much more critically designed program of general education in secondary schools, designed to provide literacy skills and numerical skills, helping students learn how to process that information?

Is that more important for their future than teaching them how to manufacture buggy whips?

Ms. RESNICK. Yes, I think so.

Representative SCHEUER. I don't want to put words in your month.

Ms. RESNICK. I think that is simple. I simply agree. The kinds of counter arguments to that that I believe you will get from people who believes in vocational education are pointers to certain numbers of high morale vocational skills like the Aviation High School in New York and a few other places like that.

My guess is that, if we looked at those carefully—I have not done that—they would turn out to not really be vocational schools, in the old sense of buggy manufacturing and whips or whatever, that they are really very good general education places that happen to be focused on rather high technology environment and that do have—because they are supported within their machines, and so on, by a number of companies—they do have the kind of equipment that allows them this hands-on experience.

So there are a few places that point to what a very unusual kind of vocational education could do. I think we shouldn't be fooled by bringing out those few examples about what is going on in most vocational education.

Mr. FOSTER. Can I add something very quickly. I'd take on the political bureaucracy and probably never get elected. I'd break up the "vokies." I'd like all the money and turn three-quarters of it into vouchers and make it available to small- and medium-sized firms in the different States.

Representative SCHEUER. Firms?

Mr. FOSTER. Yes. Small-, medium-sized firms and put the money in their hands and then let the schools and colleges compete for that business. And I bet we would get a better bang for the buck.

Representative SCHEUER. Yes, Mr. Barton.

Mr. BARTON. Mr. Chairman, I would like to disassociate NAEP from the remarks I am about to make, but from my prior career, I'd have to enter a slight disclaimer. I have been a critic of vocational education, of bad vocational education. What I find often is that people who want to get rid of vocational education are talking about bad vocational education, and they find an awful lot of good examples here and there that they are familiar with, of good vocational education, such as the New York Aviation School, such as the magnet schools.

The hesitancy I have is that if you get rid of vocational education and transfer it to general education, that is probably the segment of education which I think is in the most trouble. This middle, general track between academic and vocational education, is often watered down academic education with not very high standards, and is by and large, as John Goodlad reported in his book "A Place Called School," taught almost entirely in a passive mode with students sitting in their seat listening to an instructor. At least vocational education, where it is done well, is trying to marry the theory and the textbook with applied and active learning situations which can get at this business of processing the information that one is getting from the printed word.

When you interview high school students years afterwards for what they remember, they remember those things they were active in, where they were not in passive roles. They remember athletics, they remember the band, and they remember what they made in vocational education.

So my problem has always been that there are two warring camps that can never get together. On the one hand are the people who are wholly against vocational education and want to eliminate it, and on the other there are the vocational educators who are really not very compromising with regard to improvements and reforms.

Representative SCHEUER. Yes, Mr. Packer.

Mr. PACKER. There are two points that I would like to make here. One is that the problem is not really vocational education, but that large fraction, perhaps half, of students who have no intention to go on to college, and who are given short shrift in the high school situation.

Representative SCHEUER. Describe that short shrift.

Mr. PACKER. It is what Mr. Barton has said. It is a general education, in which you just sit for 4 years, and they will give you your diploma, and then the student goes to Mr. Foster's Aetna and wonders why Aetna doesn't think he knows enough or she knows enough to do the jobs that are needed at Aetna. Or they go into vocational education, and they learn about upholstery or automobile repair, if not buggy whips, and they find that cars no longer have carburetors.

The teachers say, "well, they are not like me, they don't want to go on to college. I'm not terribly interested in them." This is the attitude, all too often, of the educational establishment. Along with that, comes an over emphasis on symbolic logic and reading and not enough hands on approaches to things. It may not be necessary to be an extraordinary reader. There's lots of jobs today for people who can use computer graphics and artistic skills. That is typically ignored.

Representative SCHEUER. But you are talking about the ultimate in being able to process information, when you can use a computer with that degree of creativity. That requires a very high degree of information processing ability, doesn't it?

Mr. PACKER. Well, it's maybe a different degree. Recent research indicates a half dozen, or seven, different areas of intelligence, of which verbal and symbolic manipulation is only one.

Representative SCHEUER. Let me ask you, is there a Federal Government role in helping the secondary schools do a better job in addressing the new basics, and is there a Federal role in helping universities to focus on the continuing education needs of adults, either at the university or at the workplace?

In other words, is there a Federal role in helping universities rationalize the process of adult education for you, Mr. Foster, at Aetna, as well as at the university?

What is the Federal role at the secondary level and at the university level in helping the secondary schools and the universities focus on this whole question of the new basics?

Mr. PACKER. I think two useful Federal roles have been mentioned here, Mr. Chairman.

One, Mr. Foster has already mentioned. It is the need for an institute that brings together best practices, in the use of technology or other instructional methodologies, so that organizations such as Aetna can come and teach others who are less fortunate what works for Aetna.

We know most of the new jobs are in small business. Yet most small businesses cannot do what Aetna or General Electric or General Motors do for training.

So there is a great need for such an institution.

Representative SCHEUER. This is what kind of an institute?

Mr. PACKER. Well, it could be a research institute that has something, Mr. Chairman, as you had some weeks ago, where you had a technology demonstration. But that was a one-shot deal. As much good as it did, it was not something that every employer in New York, who is interested, could come to and ask, what does work for training? Whan can we do? Can you show us? Can you hold our hands if we want to do something like this consortium of unions wants to do? The consortium is out on the cutting edge, pretty much all by themselves; every day is another complicated problem, getting discounts on hardware, finding software, training the teachers, scheduling them. These are really critically important issues.

The other thing the Federal Government certainly should do is the sort of work that Mr. Barton's organization has done. We don't have a decent standard for literacy. Even the NAEP standards have more to do with literacy in the world than with literacy at work.

Why don't we ask Aetna and small businesses to help Mr. Barton decide what the questions should be?

With all due respect, look at the questions that NAEP asks about tips at a restaurant. That question may not come up very often at the workplace. Perhaps we ought to instead concentrate on how to put a menu together to train a short-order cook rather than a customer.

So an effort of that sort is certainly a Federal role. We are not talking about tens of millions of dollars, we are talking about a million or two for the effort, and the institute is also in the $5 to $10 million range.

Representative SCHEUER. Are you all saying that all kids should get more or less the same education? It should focus on academics, true literacy, reading, writing, and on practical applications to real problems or processing information?

In other words, if the goal is to help people achieve basic literacy and the ability to process information should we abolish the distinction between academic education, general education, and vocational curricula?

Ms. RESNICK. I like your idea of redirecting vocational education money to more productive forms. I am not sure whether Mr. Foster and I would end up agreeing or not on the particular prescriptions, but something different from what we have now, and there's an enormous pile of money now tied up in an outdated education idea.

That is one thing.

Representative SCHEUER. Outdated vocational education?

Ms. RESNICK. Yes; right.

So that is one thing to do.

Probably, we have to think about educating all children in much the same way through age 13, 14, 15, whatever, something like that, in order to simply have them all in a position where they have some options in the future. A completely unified program would neither interest all students or allow us to keep producing, in fact, do better than we are now, at producing the top-level scientific and technological people that we also need.

So a differentiated high school curriculum will probably be with us for a long period of time.

Representative SCHEUER. Should they be with us?

Ms. RESNICK. I think it has to be. I don't think that in the next 5 to 10 years, if ever, but certainly, not in the next 5 to 10, we can change the functioning of American education sufficiently that everyone can reach the highest intellectual levels in high school, and if the only other choice is that no one reaches those levels, then we can't afford that. That is a simple practicality.

Another Federal role has to do with testing. NAEP is currently the only—or at least the major—Federal agency participating in testing. It is desperately underfunded; and it shouldn't be the only one. I mentioned some needs to redirect the ways we think about assessment in American schools.

Developing examples of how to do that properly is a potential Federal role. I understand that the actual use of these tests is going to be directed at the State level, but there is a single job of figuring out how to do it well. We can't afford to do it in 50 separate States. That kind of development of the technology testing and assessment is an appropriate Federal role.

Indeed, in general, to make my fourth point, research and development on the kinds of education that we are talking about is the right Federal role.

Representative SCHEUER. On the point that you just made on the testing, do you think the Federal Government should mount a major effort, a research effort, to come up with much better measures of student achievement in these new basics?

Ms. RESNICK. Yes. I want to say "yes" and then do what will sound like a turnaround.

I don't want you to use the word "measures." That traps us into the current ideas of how testing has to go on, ways of assessing, ways of monitoring and tracking how the educational system is doing.

They may not be measures in the way testing people have thought of measures in the last 50 years. We have been on a unit track that comes out of the IQ testing in the Army in World War I. That is the history of today's educational tests. We have got to get off that single track, so I tend to quibble over the word "measures," but not over the idea behind it.

Representative SCHEUER. How do we get around the problem that these tests are so frequently labeled as biased and distorted by the minority group organizations when they come up with results that indicate minority group students falling primarily in the bottom half?

Ms. RESNICK. Most of the critiques of the tests by minority groups—I am sure Mr. Foster can deal with this more directly than I—but most of the critiques are not about the achievement tests, not about what people have learned, but about IQ tests, tests that are supposedly assessing people's ability to learn. That being the case, the way we get around it is focusing on what people have learned and stop worrying about how to predict their ability in the future.

Representative SCHEUER. They do, with regularity, protest tests for achievement for police sergeants to be captains?

Ms. RESNICK. Those aren't usually achievement tests.

Representative SCHEUER. Well, what do they test?

Ms. Resnick. They're not achievement tests directly relevant (*a*) to what anybody has taught in a detailed way in school or (*b*) in the police training institutes. So they are not relevant. Nobody has given them a change to learn, you might say, and often the ones that have been protested, aren't relevant to actual functioning in the police or the fire job.

Now the constitutional test law has set clear standards of job relevance. They turn out to be easier to set in the abstract than to follow in practice, but the protests are over those two things: whether they reflect what anybody's really been taught, or whether they're just a measure of one's cultural heritage opportunities.

Representative Scheuer. The ability to process information and apply it to new situations and to solve problems is certainly a legitimate part of any job program, isn't it? I don't know that we're taught that. We should be. I suppose if there is any way of teaching it, we should be taught it.

Ms. Resnick. I think that is the point.

Representative Scheuer. Aren't those kind of questions that test one's ability to process information and to solve problems, legitimate questions?

Ms. Resnick. Yes. If we have taught people to do it, and there is an easy test for that. If you can show that the instruction that is going on in some problem is making a difference overall on how people can do on those tests, then you know that you've got what we will sometimes call an instructionally validated test, a test that can be talked to and, therefore, that is not simply a test that people have had an opportunity to learn as a result of where they happen to be born or to whom they happen to be born.

So if you know the test is instructionally validated in that way——

Representative Scheuer. Instructionally validated in terms of having been taught in the secondary school system or elementary schools?

Ms. Resnick. Showing that people who go through some good instructional programs can learn to do well in those tests.

There are some tests that don't respond well even to efforts to teach. Those are poor tests by which to measure how well schools are doing.

Mr. Foster. Can I make two observations on testing? We are very much concerned about measuring, because I have to show value added for the $x$ millions of dollars that I spend in educating and training my employees. I have got to find some way to show value added. Much easier in information systems education, because either you can program or you can't. Much more difficult when I am trying to teach problem solving skills, creativity, et cetera.

Representative Scheuer. Isn't that what it's all about? You want to have employees who process information and solve problems. That is the goal, and you try to achieve it: education at the job place.

Mr. Foster. Right. But my problem is that we are into the wrong instruments for measurement. And I can tell you as an educator, I can tell you as someone who has been discriminated against by those who design those tests that the issue is norm referenced tests. It would be nice if you had a criterion reference testing or competency-based testing.

I do not know of any significant educator of color who would argue against the use of competency-based instruction assessment, because we know that we are the first to suffer from the lack of assessment.

Now, my other point is not that I am opposed to elementary and secondary education, but this discussion keeps focusing around reforming public education. Congressman Scheuer, you and I are going to be dead and gone a long time before American public education is going to be transformed by these issues.

It seems to me that the role of the Federal Government is to focus on two priorities: First of all, the adults, the ones who are not in school, those are the ones whom I have to find a way to employ. Elementary and secondary education aren't going to deal with them. The second are those folks in urban areas, those least well served because the issue is if they become part of the human surplus, then we better find something else to do with them, or do we find a way to engage them.

It seems to me the Federal Government ought to focus on those two issues.

Representative SCHEUER. I totally agree.

Mr. FOSTER. Or the "Chinese army" of American education bureaucracy will grind us up.

Representative SCHEUER. Those two elements of our population that you just addressed yourself to are the critical groups of people—those who haven't achieved effective literacy and who are not able to make the contributions to the work force that we think they are capable of making and that we should be helping them to make.

It is a fact that they haven't functioned up to their potential. That is what is crippling them as individuals and crippling the American work force.

Yes, Professor Resnick.

Ms. RESNICK. We need—and I think this is an appropriate Federal role—we need an R&D system capable of dealing with these questions. There is nothing in place now anywhere that significantly produces the kind of information that we are talking about with respect to adult learners or adolescent learners. There is no such program in the Department of Education. As far as I know, there is nothing like it in Labor or Commerce. There are little snatches of it in DOD, but it is stolen from the real military research.

The total educational research and development budget of the 1987 fiscal budget, there was about $61 billion.

Representative SCHEUER. You mean $61 million.

Ms. RESNICK. It has to be million—no, billion.

Representative SCHEUER. $61 billion?

Ms. RESNICK. Not for educational research. For R&D in the Federal budget.

Representative SCHEUER. On R&D.

Ms. RESNICK. Out of that, over 60 percent went for military R&D. About 9 percent went for health, 8 percent went for energy, 6 or 7 percent for NASA—and 0.2 percent for education.

We have got a lot of the story right there. This has to be a Federal role. This cannot be done by the separate States. While corporations can and have through foundations or other kinds of grants helped to get some research programs and some demonstration programs going, they can't do it on a scale that the whole country needs.

This is the preeminent Federal role in developing a more educated American worker.

Representative SCHEUER. Yes, Mr. Packer?

Mr. PACKER. Moreover, our preeminent system to handle the problem that Mr. Foster mentions, the JTPA system, is designed not to take advantage of research. That is, it is so decentralized, the money comes down by formula to the States, and by formula again to the cities. And it is broken down into so many small pieces that one is likely to get the results that in fact we get: the adult basic education system is a disaster.

I think the dropout rate is about two-thirds, and in which we actually handle perhaps in the full 2 million people, in most cases we're handling the same 2 million we handled the year before. That whole system has been ignored on adult basic education, and decentralization of JTPA means that you have so many players involved in that business that it is just very hard to try to determine improved ways to move forward.

Representative SCHEUER. Yes, Mr. Barton.

Mr. BARTON. The problem Mr. Foster is running into is, I don't know what the Federal role is, but it is something which goes beyond what the Federal role is to what the whole educational role is. We have a history of, by and large, shunting adult education one way or the other except during waves of immigration when we had very successful Americanization classes everywhere.

It's true all up and down the line that when people have dropped out of the education system, not going through each step continuously, they enter some kind of world of dropout status in which they basically aren't really welcomed back in.

The Carnegie Commission on Higher Education talked about dropouts from education a dozen years ago.

Representative SCHEUER. Dropouts?

Mr. BARTON. Yes. We had to encourage school systems and higher education systems to let someone leave at the end of his or her sophomore year and work a year, get their bearings and come back, because we have a history where basically anyone who cut their ties to an educational institution reentered on much lower status. They had to reapply. They were suspect, dropouts who had broken their education and were trying to get back in. They have long been suspect. It is just symptomatic of this attitude that educational institutions have about what their role is, and that has changed a lot.

There are many colleges now where, if you are a dropout, you can automatically reenter. That isn't always the case. In high schools, once a kid has dropped out and been out 2 years, those high schools don't want them back, generally.

As a matter of fact, you have the right to a high school education, we say. We have 12 years of free education, but that right lapses basically at age 19 or 20. State constitutions prohibit any expenditure of funds for public education, regular public education on anyone about that age. Then you can draw only on those specially earmarked adult basic education funds after that. Colleges and universities have put continuing education in second-class status.

If you teach in those institutions, you are not likely to get the same kind of tenure track, and they are the first budgets to be cut.

What Mr. Foster is talking about is a very pervasive thing which is longstanding and which has been eroding on the edges in some places. It is a very difficult situation.

Mr. FOSTER. If I could just add to that point, the Federal Government has enormous leverage in terms of higher education. I mean, just look at One Dupont Circle and the number of people who are very much concerned about funding for higher education. It seems to me the Federal Government ought to leverage that influence around the universities, who continue to view adult learners as peripherals or as cash costs.

I have given too many lectures around the country talking to continuing educators who view themselves as third-class, county extension agents in an urban environment.

I think Ernest Lynton's analysis of the decoupling of business and higher education is the best analysis around. I would urge the committee to read it because that still is the situation. That is where the Federal Government could play a role.

Representative SCHEUER. Germany has a system whereby they fund 2.5 percent. They have a 2.5 percent tax on earnings, and they fund a continuing education program that includes tuition expenses, continuation of salary, a subsidy of continuing salary while the individual is studing.

Lou Harris has done a recent poll in which he asked, "If we had a remedial education system or a continuing education system that really worked, that just wasn't more of the past that hasn't worked, would you be willing to pay a 2 percent tax on your earnings?" And he received an overwhelming "Yes," if there were assurances that something good would happen and that it wouldn't be more of the same that hasn't worked.

Now, the Germans are doing it. What do you think about a major education program funded by some kind of earnings tax?

Ms. RESNICK. As long as it works.

Mr. PACKER. And, in California Mr. Chairman——

Representative SCHEUER. Perhaps it could be split between earnings and business and half corporate taxes and half earnings tax?

Mr. PACKER. I think they have tried to do something that sounds a little bit like that in a number of States. In California, a part of the unemployment insurance tax which is paid on wages can now be used for retraining purposes. That is not quite the same, but it's related to what you are talking about. You can put training into the unemployment insurance system, then when people are unemployed they could be helped to go on to school.

One of the things that strikes me, though, is that the trade bill that is now in conference has $950 million in it for retraining dislocated workers, and I don't think it has anything for the sorts of things that Badi Foster has been talking about in the way of research.

It has $950 million to spend in ways we really don't have a good handle on right now. And no money in there for research. There is a small amount, I think, $3 million, for an institute to transfer what the military knows to the private sector. That is about the only forward look in that bill with regard to new ways of doing training.

Mr. **Barton**. In addition to California, Mr. Chairman, Delaware—California has earmarked a lump sum for that.

Representative **Scheuer**. Where does it become from?

Mr. **Barton**. Well, in California——

Representative **Scheuer**. It is out of the capital surplus or something like that?

Mr. **Barton**. In California they collect a small amount of money through the unemployment tax system, which they have earmarked. They began with $50 million, which they earmarked for retraining. Technically, it can't be an unemployment insurance tax because if it is, it has to be used for unemployment insurance going to the Federal trust fund.

Delaware has enacted a small tax that is collected through their unemployment system which is dedicated to retraining. In addition to Germany, France has long had a tax offset system where if the employer, individually or with the schools, isn't providing training they have to pay the tax. If they provide it, the tax is offset.

England has had a lot of experience with that. This government has abandoned it, but with the Industrial Training Act of 1964, you had that kind of a tax levey for retraining. If the employer did it or hired the schools to do it, they didn't have to pay the tax. If they didn't do it, the tax was collected and training was centralized on an industry basis through industry training institutes. There has been a fair amount of experience.

Mr. **Foster**. On the point of being able to state the outcomes first before we look for ways of funding it, I would just call to your attention the amount of money that is available through UAW-Ford and UAW-GM for retraining, and the fact that they can't figure out how to use the money. So the issue there is not the absence of the dollars, it's the absence of the political will and as well as so many other issues at stake.

Representative **Scheuer**. This is the most discouraging thing you have said all day long—in fact, the most discouraging thing that I have heard out of this whole hearing.

You are saying that even when they have the money, the UAW—which is not a retrograde organization; there is an awful lot of creative talent there—with all of that creative talent, with all of their enlightenment and sensitivity to the needs of their workers, expecially the minority workers, and with available cash, they can't figure out how to do it?

Mr. **Foster**. Correct.

Representative **Scheuer**. Why is that? We haven't done enough research?

Mr. **Foster**. No. It's politics.

Representative **Scheuer**. Intraunion politics?

Mr. **Foster**. Between labor and management. It's like George Benson who sang that song called "This Masquerade." He said, "We try to talk it over, but the words got in the way."

You look at labor and management getting down to the table with their positioning, and meanwhile I think it's a nickel an hour that keeps dropping in the bucket on education and training. For 40 years it's been piling up, millions of dollars. I have worked with higher education. I have worked with the UAW and Ford to create ways of funneling that money out. But basically, it's a political problem.

Representative SCHEUER. Excuse me, just a minute, Mr. Packer. What other kinds of political problems seem to be frustrating progress?

Mr. FOSTER. You mean with UAW-Ford, or the politics of higher education?

Representative SCHEUER. Elaborate on that.

Mr. FOSTER. For example, to try to get institutions to collaborate, let's say, if you're in the Cleveland area, to get institutions of higher learning to collaborate, to try to figure out who does what best so that we can provide a coherent set of educational programs for workers in UAW-Ford who need to be retrained. Can we make our system accessible to them beginning by describing in simple language what the expected outcomes are of the course, how you can have that course offered at a time that is convenient, and most importantly, offered by an instructor who believes in the integrity of the adult learner; that is, involving and affirming that individual's way of learning?

So you have the politics of higher education and you've got the politics of labor-management, and in the meantime you've got the reality of that individual in Detroit or Cleveland who isn't getting retrained.

Representative SCHEUER. This is mind boggling. The Government is not the problem, funding is not the problem, and yet you can't achieve a critical mass and produce a learning process. That is disgraceful.

Mr. FOSTER. I refer you to the Commission on Higher Education and the Adult Learner, right here at One Dupont Circle—they have more information to back that up—and the Council on Adult Experiential Learning.

Representative SCHEUER. This is truly depressing.

Mr. Packer.

Mr. PACKER. I think it's more a mix, more complicated than that. I think Ford which has been in the business for a long time——

Representative SCHEUER. Has been in what business?

Mr. PACKER. The Ford-UAW center, the national center has been in the business for some time.

Representative SCHEUER. The business of educating adult workers?

Mr. PACKER. Adult workers. Part of the problem, the political problem, has been the union's insistence that they do not spend any of this money for training that the corporation should do with their own money.

For example, for jobs on the line, that should come out of corporate funds. But Ford has worked with Eastern Michigan University. They have developed some programs that have gotten some very good marks.

It's uneven. The problems are also terribly bureaucratic. People who have to work together in a new way, and it's a new system.

I think it's too early to indicate that these programs are failures. They don't move as fast as one would like. We don't have a model that someone can say, "Here, do this. This is what works."

So those centers have had the same problems that the Labor Department has had. They have proposals. They are worried about a scandal in case the money is not used appropriately.

We don't spend our money on the dislocated worker in the Labor Department because the paperwork in getting the damn thing approved is harder than doing the training. We don't have models that we can roll out. So we don't spend all our Federal moneys either.

Some of it is politics, and some of it is just damn difficult to do something new for the first time; especially in the education system, where everybody says don't do everything new for the first time. And I can give you horror stories. I have gone to——

Representative SCHEUER. Mr. Foster already gave me a horror story.

Mr. FOSTER. I hope your memory of me is much more pleasant.

Representative SCHEUER. Give me another horror story.

Mr. PACKER. I have gone to the Labor Department with a model and I have said, "Is this legal?" For example, I asked the Labor Department whether the local SDA—service delivery area—can enter into an agreement for many years so that a corporation can purchase training equipment because they too have a long-range agreement. But, there is nobody in the Labor Department who can tell you, or who will tell you, whether that is legal. So the SDA might as well do what it did last year because otherwise it is going to get audited.

Representative SCHEUER. Do you know what you are all telling me? You are all telling me that in a country like ours, that has a heterogeneous population, a large flow of immigrants that don't have literacy skills even in their own language sometimes much less in our language, and where you have some kids that to a large extent are from minority groups, and who for reasons that are a little murky, never really did learn literacy skills and certainly didn't learn how to process the information in a society that has incredibly high standards in education, literacy, and processing information—that our society can't cope with this problem.

And you also are telling me that things are going to get worse and worse and this subgroup in our society is going to get larger and larger and kids are going to continue dropping out of high school with really no place in our economy and therefore no place in our society.

A lot of kids are going to continue to graduate from 12th grade unable to read their diplomas, and they are going to get into the adult work world and we are not going to be able to do anything better for them there than we have done in the elementary and secondary schools.

Now, that is what I hear this morning, and that is a very depressing scenario.

Ms. RESNICK. I think we ought to be depressed enough to be alarmed. I don't think we ought to be so depressed as to give up.

Representative Scheuer. But what Mr. Foster and Mr. Packer are saying is that nothing works, even where government isn't the factor, nothing works. The UAW and Ford and the universities in that area just can't get together and do anything.

Ms. Resnick. The novel demonstration program of this year that is done by special funding that allows it to work outside the perceived constraints they have been talking about can in 3 years become the kind of program that is spread around and tried in two dozen places and in 7 or 8 years can become normative.

We need ways of getting the models started, of seeing what is possible by doing it in a few places. The way this country seems to be able to work to do that is by extra funding in getting models going. We know that we don't want that as the permanent critique. We can't be pouring more money on top of existing institutions at every step.

But funding programs that require a shared participation at the funding level by the labor unions, by the management, by the universities, but that get leveraged with some Federal funding, we will be able to get the models and demonstrations going so that what is new today won't be new tomorrow but will be the kind of thing that we know how to do and therefore set out to do much more routinely.

Representative Scheuer. I find it very depressing to hear from Mr. Foster that they have been throwing a nickel an hour into that pot for years, and there are vast millions available and yet they can't agree about how to use it.

Ms. Resnick. I am just suggesting that the way out of it is these point projects and the research and development that will allow the new ideas to get tested and become visible where they start to work. That is how we get changes in these heavily bureaucratized systems.

Representative Scheuer. We know how bureaucratized 110 Livingston St. is. We know how bureaucratized the Federal Government is. But we didn't think the labor unions and the corporations, working in concert, would be so traumatized by the problems of communicating with each other and working out how to spend the money that it would remain unused.

Mr. Foster. Mr. Chairman, let me just put a footnote on that. Clearly, money is important. But I am reminded about Richard Titmus, who wrote a wonderful book many years ago entitled "The Gift Relationship." What he did was to describe how human blood was collected and distributed.

His argument was that once people stopped giving blood and instead sent a check, you got the commercialization of blood. The technology for screening blood was such that you could not reduce the risk of contamination. So the irony is that as people substituted money for a gift, the people least well able to sell their blood, sold it, and in the end the rich donor was at risk as well.

Now, that is a rather dramatic analogy, but that is what I am saying. When we look at the question of human capital and the problems that your committee have been describing, ultimately it takes the kind of leadership and commitment—the gift—to understand that we are committed to something larger than our individual interests. And that leadership has to come from our elected officials, from our business people, from our spiritual leaders, and I guess that is what is our hope.

But when I go around the State of Connecticut or around this country and talk, I discover that I can run for office and win by simply speaking to the yearning in the hearts of men and women and young people for something to be done. It is just like Lou Harris said, if you tell them that we will do it, they will pay the tax.

Even people who might be viewed as bigoted and not wanting to spend any money on those little colored kids, you press them and they will say, "Fine, I'll make my contribution as long as it works."

Now, that is the dream and that is the hope of our society, and I guess we don't have enough of that rhetoric, if you will, to go along with the necessary funding and getting people to sit down around our table and to say, "Look, either we're going to hang together or we're going to hang separately."

Representative **SCHEUER**. Well, it has been a very interesting hearing. We have gone way beyond the normal hour. I want to thank you all for your very stimulating testimony, and I suppose things will look up some day. Thank you all very much.

The subcommittee is adjourned.

[Whereupon, at 12:05 p.m., the subcommittee adjourned, subject to the call of the Chair.]

# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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## WEDNESDAY, OCTOBER 21, 1987

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representatives Scheuer and Hawkins.

Also present: Deborah Matz, professional staff member.

### OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative **Scheuer**. Good morning. This hearing is a continuation of our first day of hearings and it will continue our overview of the role played by education in determining the health of our economy and our ability to compete as world players in global commerce.

We are very happy to have with us today the very distinguished chairman of the Education and Labor Committee, Congressman Gus Hawkins of California, who has been involved in these hearings from the very beginning and who has been an enormous source of wisdom and guidance from the inception.

We are going to conduct the hearings in a very informal manner, Gus, and I hope that you will intervene and contribute as the spirit moves you.

Representative **Hawkins**. Thank you.

Representative **Scheuer**. This should be a very thoughtful morning of hearings. The first witness on the first panel will be Governor Bill Clinton, Governor of Arkansas. He's been very active in the area of education reform and has been one of the leaders in the National Governors' Association. He cochaired the panel which issued the important National Governors' Association report, "Time for Results."

In 1983, Governor Clinton called the Arkansas State Legislature into special session to enact higher education standards for public schools and in 1987 his legislative program provided for further support for education and economic development as well as an early childhood initiative called "Good Beginnings."

Our second witness will be Governor Edward DiPrete, Governor of the State of Rhode Island. He is the Chairman of the National

Governors' Association's Committee for Economic Development and Technological Innovation. Governor DiPrete is credited with performing an economic miracle in Rhode Island. In his last state of the State message, which dealt almost exclusively with education reform for the State of Rhode Island, he called for the "Year of Education." Governor, we are looking forward to hearing about that.

Our third witness will be the distinguished former Secretary of Labor, Mr. Ray Marshall, who is now a professor at the L.B.J. School of Public Affairs. He will discuss how and why the skill requirements for American workers are changing, what needs to be done to make American workers competitive in a restructured world economy, the scale of the challenge in the schools and in the workplace and why current administration policy is inadequate.

This should be a very thoughtful and very stimulating session. Why don't each of you take about 8 or 10 minutes to sum up your thoughts and speak with us very informally, hopefully not read from your prepared statement, which incidentally will be reprinted in full at the point in the record in which you address us.

So just assume that we are all together in somebody's living room and we're listening to you sound off on the question of education and training and what needs to be done to make America a strong, virile, and vibrant democracy, and a positive force in global economic affairs.

So with that prelude, Gus, does the spirit move you?

Representative HAWKINS. Well, this is quite a living room, but I think after we begin the spirit will move me and I will be very glad to contribute.

Representative SCHEUER. We are very honored and delighted to have you with us today.

Representative HAWKINS. Thank you.

Representative SCHEUER. Governor Clinton, let's hear from you.

## STATEMENT OF HON. BILL CLINTON, GOVERNOR OF ARKANSAS, ON BEHALF OF THE NATIONAL GOVERNORS' ASSOCIATION

Governor CLINTON. Thank you very much, Mr. Chairman.

First of all, let me say that I have reviewed your plan for the structure of these hearings and I commend you on it. I think it will be very valuable to the Congress in trying to assess what our country needs in the way of human development and what the proper role of the National Government should be.

I'm glad you didn't ask me to review my statement. We'll put that in the record.

I think everyone now recognizes that the development of our human capacity will be more important than any other aspect of our obligation to secure the economic future of this country and that we have some serious problems.

I would like to break my remarks down into two categories. One is the whole question of the education of America's future work force. The second is the question of the education of America's present work force, because over 75 percent of those who will be in the work force in the year 2000 are there now and, therefore, notwithstanding all the attention that the States and the Governors have gotten for our efforts in public education, for example, we have to be very sensitive to the fact that most of the workers we'll have when the century turns are already in that work force and we need to deal with them differently.

First, with regard to the public schools and the children of our country, the good news is that the schools are getting better. Test scores are up. Our students are working harder. Our teachers are working harder and people are plainly learning more. New investments are being made and basically there is progress all across a broad range of issues in public education. That's the good news.

The bad news is that we still have two great problems. First, we are less efficient than all of our major competitors in developing the God-given capacities of all of our people. Our dropout rates are still very high. We have very high rates, among young people, of teen pregnancy and drug abuse and other disabling problems. Therefore, there needs to be, I think, in the years ahead a great deal of attention given to early childhood development, particularly to the at-risk population, and to the acquisition of strong basic skills by children in the very early years.

A recent study by the Children's Defense Fund, for example, indicated that the single most significant deterrent to young women having a second child out of wedlock was the acquisition of basic learning skills which gave them a sense of possibility, a sense of tomorrow, a sense of productivity.

So I would say to you that the actions that Congress has taken, for example, even in the budget-cutting atmosphere of the last few years, in giving States the option to provide coverage for poor women and their children from the time of pregnancy until the kids are 5 years old is a critically important thing. You need to examine all those things and try to do more to help make sure that in the early years we get our people off to the best possible start so that we can deal with these people who are capable of being productive citizens but aren't now.

The second problem we have is that except for about the 15 or 20 percent of our students, they still need to learn more and they need to learn in different ways. The average 18-year-old will change jobs seven times in a lifetime. That will require him or her to learn many more things. What you're capable of learning now is far more important than what you know when you are 18.

We need what the educational professionals call a "higher order of learning skills" than we are now producing in a lot of our schools.

Representative SCHEUER. Excuse me, Governor. Can you describe what that term means?

Governor CLINTON. It means that in addition to understanding of basic concepts of literacy and mathematics, we need to have people who, when they graduate from high school, even if they are not going to be college students, have a strong reasoning capacity and have a passable understanding of elementary scientific and mathematical concepts that will enable them to learn new and more sophisticated things increasingly in their adult years. And we find that still there's too much rote learning and too little creative development of mental capacities among our average students.

Our competitors are still eating our lunch, not against our best students, but as compared with the average students of the various countries. So the States are giving a lot of attention to that and we are going to all be working very hard on trying to lift the performance levels of our average students.

Just one other thing about the preparation of the future work force. I think that after high school we need to focus on two things. The increasing flexibility required for job-specific training programs. Most States have fixed networks of vocational training schools which get substantial amounts of Federal money. Most States have been imprisoned by those networks, if you will, into building resistant bureaucracies which continue to train people for jobs that may not even be there when the programs are over.

So there needs to be a very careful analysis, it seems to me, about the way the Federal money goes into vocational education to ensure that it is targeted, one, toward the development of thinking skills as well as job-specific programs; and, two, that it goes into institutions that require flexibility.

I think our State has done a real good job of eliminating as well as starting job training programs, but it was awfully hard to get that process started, and that's something I think the Congress can play a constructive role in through its vocational aid.

A final point I want to make about that is that we still need more young people going to college, especially in the high-unemployment States. If you track the unemployment rates over the last 5 years in America against the 1980 census figures on the percentage of adults over 25 with college degrees, you will find that there is a remarkable correlation. Obviously, you have to make allowances for the collapse in the oil prices and per capital defense spending and other things, but you will find that there is still a remarkable correlation in our country in the college-going rates and unemployment rates. Mr. Marshall may have more to say about this, but that's one of the things that's most disturbing in the last few years is the decline in the college-going rates among minority children in our country because it's still not only the key to their opportunity but the key to the overall texture of the economy. We must have, it seems to me, more than 50 percent of our kids starting college and that deserves I think a lot of attention.

Just a few words on today's work force. I think there are essentially two or three things we need to focus on with regard to today's work force and the Federal role in helping us prepare today's work force.

The first thing is that every State in the country needs to have a major program of adult literacy with a goal of eliminating illiteracy in the adult work force certainly by the turn of the century.

There is an explosion of efforts in that area across the country. We need to focus on several target populations, our corrections population, for example. People in the penitentiary in Arkansas are tested when they come in for their reading levels. Between 1979 and 1986, their reading level did not change at all. They had a tested reading level of 5.6 years—an astonishing low statistic——

Representative SCHEUER. I suppose that's one of the reasons they were in the penitentiary.

Governor Clinton. Absolutely, and we give them "good time" now in Arkansas. You get out up to 90 days early if you get a high school equivalency degree, you finish a vocational training course, or you finish a college course. I believe as of last year we have never had a repeater that went all the way through and finished some college courses.

Representative Scheuer. Remarkable.

Governor Clinton. Remarkable.

Representative Scheuer. And very encouraging.

Governor Clinton. It is encouraging, but it's discouraging, too, when you see the dimensions of the problem.

We are trying to enlist companies in our State—and I think States all across the country—to take the initiative in reviewing the basic literacy skills—not just the need to be retrained for a new process, but the basic literacy skills of their work forces. And I think anything which can be done to encourage more of those business-government partnerships to develop the capacities of the employees to read and think and reason so that they will be able to get into the flow of these changing jobs is time and money well spent.

I also believe that the States, in providing job training, need to turn as much of the decisionmaking process as possible over to the market, over to the developing, emerging economy. We, for example, have found that one of the best expenses that we ever undertook in Arkansas was to dramatically increase the number of industrial coordinators we have, people who do nothing but just travel around and talk to business people about whether we are or are not training people in the proper areas. That is the sort of instrument by which we effect flexibility in our training programs and it has dramatically improved and also measurably altered what we are doing.

So I think there needs to be a great deal of attention given on the part of the States to merging their activities with the private sector so that they can be flexible and competent. But first of all we have to lay the foundation of basic literacy. We still have a long way to go and this deserves a lot of attention.

Now let me just say one final thing. We need the following help from the Federal Government. One, there's been a lot of cutbacks in the Employment Security Division funding. We don't need so may cutbacks that we can't get adequate and market survey information. That's critical to our flexibility in job training.

Two, I don't think that there should be further cutbacks in Federal employment and training programs. Congressman Hawkins and I have been working on trying to get a little more for welfare mothers, people who are trying to get out of welfare dependency into the work force.

So I think in those two areas we ought to have continuing Federal commitments.

Finally, I think anything which could be done to increase the flexibility given to States which are doing a good job, for example, in the use of unemployment funds to set people up in business or do new job training, innovative programs, should be considered.

Those are the three areas where I think the Federal Government has the most responsibility. Thank you very much.

Representative **Scheuer**. Thank you very much, Governor Clinton.

[The prepared statement of Governor Clinton follows:]

## PREPARED STATEMENT OF HON. BILL CLINTON

Mr. Chairman and members of the Joint Economic Committee, I thank you for asking the National Governors' Association to appear at this important hearing on competitiveness and the quality of the American workforce. I appear today representing the National Governors' Association.

Last year, during my chairmanship of the National Governors' Association, the nation's Governors undertook a major project entitled, "Making America Work: Productive People, Productive Policies." The project outlined a wide variety of initiatives to increase labor force participation by all citizens and programs to improve economic productivity. The "Making America Work" project was comprised of two interrelated reports: "Bringing Down the Barriers" and "Jobs, Growth, and Competitiveness." The Barriers report focused on societal and individual barriers to economic self-sufficiency and suggested action agendas for states to more effectively help remove those barriers. The Jobs, Growth, and Competitiveness report established state goals to help America become a nation with a more competitive economy and to develop a framework to assure economic opportunity. Today, I will highlight the recommendations from the Jobs, Growth, and Competitiveness report.

### Competitiveness Goals

The report emphasizes the need to adopt clear and achievable national competitiveness goals. These goals must be embraced by all Americans--business people, workers, farmers, and government leaders. I tell you today that the nation's Governors are firmly committed to the goals of:

1) reducing the federal budget deficit, 2) establishing equitable trade relationships, and 3) increasing American productivity. The first two goals are the responsibility of the Administration and Congress. Reducing the budget deficit and establishing more equitable trade relations are things you as members of Congress must tackle, although Governors stand ready to assist you in any way that we can.

The Governors will continue to take lead responsibility for achieving the third goal of increasing American productivity. The Jobs, Growth, and Competitiveness report sets a blueprint for revitalizing America's economy. Three of the vital components of that blueprint are: 1) productive workers, 2) efficient workplaces, and 3) responsive communities. While states are actively involved in all three of these areas, this hearing focuses on increasing the productivity of our workers. I will, therefore, limit my remarks to worker productivity.

Although Americans have worked hard, educated themselves, and served as an example to the rest of the world of what individual initiative and discipline can accomplish, workers in the 21st Century will not be able to compete using 20th Century skills. The "new American workforce" will have to be internationally aware, computer literate, adept in languages and mathematics, and, above all, versatile. Only then will we be able to turn economic potential into economic productivity.

The national economy and the American worker now function in an environment where change is the norm. Governors, as chief executive officers of states, are in the best position to orchestrate the diverse systems involved in anticipating and managing that change. States have begun to recognize that education systems and job training systems must be directed toward facilitating the ability of individuals to adapt to change, to welcome it as a healthy outcome of a vital economy. States have begun to link economic development activities with human resource development programs. And states are taking seriously the challenge to bring the economically disadvantaged into the economic mainstream. States, in cooperation with the private sector, are identifying members of the current workforce who do not perform to the best of their abilities.

## Productivity For Future Workers

Governors have led reform efforts in our elementary and secondary schools where the basic skills and reasoning ability of tomorrow's workforce are being taught. Through efforts of the National Governors' Association, we are grading ourselves on our ability to adequately prepare our students for the rigorous demands of the skills-oriented future. This grading process will continue over the next four years as we strive to make our schools places where students are taught to learn--itself an essential skill in the information age.

As a part of this process, we must build the bridge between the classroom and the marketplace. If we are to have a flexible, adaptable workforce, our students must have more than a diploma, they must have a firm grasp of the basics. The definition of the "basics" must include reading, writing, math, science, and the humanities. There is simply no room for minimum accomplishment when it comes to educating our youth. Businesses have a right to expect competency among graduates.

The importance of postsecondary institutions in our efforts to increase productivity of the workforce, and, hence our competitiveness, cannot be underestimated. Statistics show that the jobs in the year 2000 will require much higher skill levels than jobs require today. Our nation's postsecondary institutions will be responsible for imparting many of those skills. We must focus our efforts on educating more scientists and engineers. We must encourage universities to engage in research and development efforts that will support business activity. Universities also perform the important task of preparing our teachers to teach. States throughout the country are making improvements in colleges of education to more effectively prepare students for the challenges of teaching.

## Productivity Enhancements For The Current Workforce

Building tomorrow's workforce will not solve today's competitiveness problems. Three-fourths of the people who will be working in the year 2000 have already entered the workforce. Thus, over the next ten to twenty years, it will be the productivity of the current labor force--not the emerging one--that will determine the competitiveness of the U.S. economy.

We must pursue several strategies to upgrade the skills of the current workforce and instill the ability to adapt to change in our workers, supervisors, and managers. First, we must encourage the private sector to refocus its investments in training to emphasize the broader skills necessary for a more flexible workforce. While public investment in job training has received a great deal of attention, that investment continues to pale in comparison to the investment made by private industry. Statistics indicate that $180 billion in informal training and $30 billion in formal training is provided by business. While some of that training is designed to increase the basic skills and productivity of employees, much of it continues to simply replace one set of narrow skills with another. As state efforts to improve elementary and secondary education yield results, businesses will be relieved of the burden of providing basic skills education. Dramatic productivity gains could be achieved by developing stronger ties between state human resource and economic development strategies and the decisions businesses make on training.

States, too, must heed this advice and refocus job training to enhance long-term productivity potential. Community college, vocational education facilities, and universities are critical components of state efforts to increase productivity among the current workforce.

At least sixteen states have established state-funded job training programs that link human resource development with economic development efforts. The emphasis of these programs is primarily retraining. Largely as a circumstance of changing demographica of the workforce and dramatically changing economic conditions, some states have also begun directing their state job training programs inward as a strategy to retain jobs. The goal is to keep companies healthy by providing training to upgrade skills of the existing workforce. Today, virtually all state-funded job-specific training programs have the flexibility to use training as a positive economic adjustment tool. We can help companies and their workers adapt to rapidly changing workplace requirements.

Governors have recognized the importance of public/private partnerships in productivity enhancement programs. A number of states have created quasi-public independent organizations to administer their job-specific training programs. As a result of these new approaches, states have been able to draw upon the professional expertise outside of traditional state agency structures; experiment with different financial arrangements with individual firms, workers, and educational institutions delivering services; and forge collaborative relationships between state education and training activities, the private sector, and state economic development initiatives.

A third strategy involves investing in the economically disadvantaged who are not currently in the labor force, but who are no longer in the educational system. States are active in the business of "second chance" programs. While most of these programs concentrate on providing educational assistance and employment training for welfare recipients, more and more of the focus is on current workers who lack basic literacy skills. A recent study found that at least thirty-one states offer adult education programs that work through companies to provide basic skills training to employees. In cooperation with the private sector, states will continue to improve assistance to help the current workforce achieve its full potential.

The Governors are hard at work trying to get federal legislation to reform the current welfare system by enhancing its employment and training component. Our goal is to turn what is now primarily a payment system with a minor work component into a system that provides real opportunity and incentives for individuals to get the education, training, and support they need to seek, find, and maintain jobs. This is absolutely critical to our increased competitiveness initiative.

A recurring theme in the Jobs, Growth, and Competitiveness report is the need for cooperation between the private and public sectors. This spirit of cooperation extends to relations between labor and management as well. Employee-employer relations are essentially private, with federal law establishing the framework for labor organizing and collective bargaining. However, states can do much to support the development and maintenance of constructive labor-management relations within their borders. Governors and states can be instrumental in creating environments where positive labor-management relations can flourish.

## The Federal Role In Enhanced Productivity

While the states can and will take the lead on increasing worker productivity, our federal partners can do a great deal to assist in those efforts. Three specifics are worth mentioning. First, the federal government must assist in development of more timely and effective labor market information. Accurate labor market information is critical in restructuring training and education programs to fit private sector employment needs. With appropriations from the Federal Unemployment Tax Act Administration Trust Fund on the decline, state employment service agencies find it more and more difficult to generate the kind of timely information needed. At this critical juncture, we should be developing more and better labor market information, rather than allowing our information-gathering apparatus to become obsolete.

Second, the federal government must maintain its financial support of education, employment and training, and employment service programs. State efforts to improve programs are highly dependent on federal funding and further decreases in funding would have disastrous effects.

Third, Governors should be given maximum flexibility to develop program components that meet state needs. While uniform goals are important in furthering national policy, individual state conditions vary considerably and such differences should be acknowledged in federal programs. Your assistance with these issues will strengthen the federal/state partnership at a time when all Americans have so much at stake.

My successor as chairman of NGA, Governor John Sununu of New Hampshire, has instructed NGA to sort through many intergovernmental relations questions to further improve the productivity of the state/federal partnership. As NGA proceeds with that process, we will keep Congress informed.

I thank you for the opportunity to appear before you today and congratulate you on your efforts to improve America's competitiveness for today and tomorrow.

Representative SCHEUER. Governor DiPrete, please proceed.

### STATEMENT OF HON. EDWARD D. DiPRETE, GOVERNOR OF RHODE ISLAND, AND CHAIRMAN, NATIONAL GOVERNORS' ASSOCIATION'S COMMITTEE FOR ECONOMIC DEVELOPMENT AND TECHNOLOGICAL INNOVATION

Governor DIPRETE. Thank you, Mr. Chairman.

As chairman of the Economic Development and Technical Innovation Committee of the National Governors' Association, I just want to thank you for the opportunity to give testimony today on behalf of NGA as well as our views as to what's happening in Rhode Island.

I just want to say right from the start that I am an optimist. I know we've seen a lot of turmoil in the economy this past week and that's probably the understatement of the week. I know that this nation from past history has the ability and the track history of emerging stronger than ever when any of these unforeseen jolts hits us, so to speak, and I think it's this kind of a jolt necessary periodically to galvanize public support and remind us where we are and where we are going.

One of these great oppportunities which confronts us is increasing our ability as a nation to compete more effectively in the world. Our country is blessed I think with the world's deepest reservoir of human resources and it is precisely those skills—and this has been true all through history—the skills, the technical know-how, the dedication of the American worker and the spirit of the American worker that has brought this country where we are today.

Now during our first two centuries, as our economy was evolving from agrarian to manufacturing, the government—and I'm going to say particularly State and local government—had the charge and in fact taking the lead in constructing a system of free, universal public education. And thanks to this emphasis on learning, we emerged as the strongest nation in the world—in fact, the strongest nation this world has ever seen.

At the same time, much of the burden for skill development and job training was left to the private sector and generally through the history that system seemed to work out pretty well. But now our Nation is moving into the first stages, if you will, of a postindustrial economy of rapidly changing skills and needs—I think Governor Clinton alluded to the same thing—that we can't make the mistake of preparing people, providing them with certain skills that when they have these skills the jobs that they trained for just are not there any more. We just can't take people and put them into a loosely focused public educational program with a wish of good luck and hope that the private sector will take care of the rest. That simply is not going to happen.

Now let me just point out a few facts. An estimated 13 percent of 17 year olds in the United States are functionally illiterate. That's a terrible statistic; 13 percent of 17-year-old people coming out of school are functionally illiterate. Incidentally, that figure climbs to 40 percent among the minority population. Forty.percent of minority people are functionally illiterate. That's something that this country can't accept, we can't afford, and obviously we have to do something about it.

Functional illiteracy costs this country $25 billion a year in lost productivity, accidents, damage to equipment, government support payments. That all has to be factored in. According to a report published by the Business Roundtable on international competitiveness, the results of a 17-nation educational study showed American students trailing all industrialized nations except one in quantitative skills.

Now the U.S. Department of Labor has projected that virtually all new job creations will come in service industries and that these new jobs will demand a much higher skill and educational level than the jobs of today.

So our charge is crystal clear. To meet our current needs as well as the needs of the future, it is absolutely essential that government leaders forge new linkages between our system of education and the requirements of the private sector.

Now NGA has been spearheading action on this agenda of fundamental importance with the 1991 report "Time for Results" and Gov. Bill Clinton and Myron Alexander before him certainly played leadership roles in closely examining the problems inherent in our current system of education.

We asked the tough questions and Governors today around the country as far as I'm concerned are the people on the firing line on issues such as public education and Governors, perhaps because of a vacuum partially being created at the Federal level. We Governors have had to step in and take the leadership role and be in education, economic development, foreign trade, and I think the Governors as a group have performed admirably.

Now in Rhode Island I just want to mention some of the steps that we've taken. We came out of the 1970's into the 1980's, one of two States that had actually gone down in population. Our unemployment rate was above average. Our income was below the national average and let me say the general reputation of Rhode Island as a place to do business was not particularly good and we just had to change the course, if you will, in the State of Rhode Island. We did this legislatively and administratively and I just want to say we set the stage for allowing educational reform to come in and prepare our young people for the jobs of the future.

Now as you alluded to, Mr. Chairman, in my state of the State speech before the general assembly in early 1987 I proclaimed that educational excellence would be my top priority for 1987 and earlier this year signed into law a number of programs designed to move along our educational reforms.

If I could just talk briefly on a few of the highlights because I believe there's a direct correlationship between these educational reforms and the job skills that are going to be necessary for the future.

One, we adopted a program called "The Literacy and Dropout Prevention Act of 1987." This sets minimum literacy standards with extra emphasis on literacy skills for all students K through 3, remedial help for kids in school from kindergarten right through senior high school, for any youngsters that are performing below such standards we are reducing class size in the early grades. In fact, kindergarten through third grade, we've adopted a public policy now of a maximum number of 15 students in those early grades—a classroom size of 15, and we think that's very important, and we are looking also to reducing class size further as we go through the senior high school.

We have adopted an educational excellence fund which provides funding for a number of programs designed to spur innovation at the school district, the school building, and the classroom level. We've added extra funds for textbooks, library books, and classroom equipment. These are extra appropriations directly from State government, I might add, to the local school districts intended to be funds above and beyond what the local school officials have appropriated.

We've had a total revamp of our statewide vocational technical system providing funding for programmatic changes and providing for additional students, including younger students, minorities, handicapped, and adults.

We have increased adult educational opportunities through interagency partnerships, again with an emphasis on helping disadvantaged adults in achieving their high school equivalency.

We have adopted a program aiding pregnant teenagers to receive their diplomas. Again, Governor Clinton very clearly indicated that in Arkansas they have focused in on helping pregnant teenagers to complete their education, and that kind of a problem, as we all know, knows no State borders. It's a national problem and I think we, as Govornors and governmental officials at various levels, have a responsibility to address all segments of the population, particularly those with special problems.

With the substantial additional resources supplied to our educational community, of course, comes a responsibility to produce results. I think what I'm saying, we just can't take extra money, throw it to the school departments or the school systems, and say "You have this, now run with it." We have tried to put specific programs with a specific focus, whether it be remedial, early intervention, early identification, smaller classrooms, extra textbooks and equipment—here is the money; now we want accountability. We want to measure the results down the line and it may take time to measure these results and they are not going to come about overnight, but by and large we owe accountability to the public. In fact, the public demands accountability.

Now as far as the change in the work force is concerned, in Rhode Island we have also recognized the necessity of bridging the gap, if you will, between the public labor market policy and the requirements of the business community. These requirements are changing every day and every year. Today's requirements are not those of yesteryear.

Now we have adopted a program in Rhode Island called "Workforce 2000," and I might add that Federal officials have shown a great deal of interest in this. They came to Rhode Island and have adopted much of our program as a national model, "Workforce 2000." This has been adopted and cited by the U.S. Department of Labor.

This work force model provides the private sector with a direct channel to enter into partnerships with government to education, train, and retrain. "Workforce 2000" represents a comprehensive effort to marshal all the State's resources in the pursuit of a long-term objective of a Rhode Island work force with the skills, education, training and support necessary for workers to succeed in the future.

I've gone to business groups, labor groups—I spoke last Friday evening in Rhode Island at the annual convention of the AFL-CIO stressing to them the importance of their participation and I will say that business and labor have identified "Workforce 2000" as an appropriate program for them to participate in and show leadership.

The "Workforce 2000" program will contain minority outreach, outreach for people with language barriers. We have a lot of immigrants in Rhode Island recently from Southeast Asia. They have a tremendous work ethic, but they have language barriers. "Workforce 2000" will address their needs, literacy problems, day-care problems. I think all of these are a proper agenda for Governors and the Federal Government, if you will, in today's world.

I am optimistic about the future. I am optimistic about our job training and retraining, and again, I want to thank you for this opportunity to present my views to you here this morning. Thank you.

Representative SCHEUER. Thank you, Governor DiPrete.

[The prepared statement of Governor DiPrete follows:]

## PREPARED STATEMENT OF HON. EDWARD D. DiPRETE

As Chairman of the Economic Development and Technological Innovation Committee of the National Governors' Association, I greatly appreciate the opportunity to offer testimony to you today on the importance of education and job training to United States competitiveness.

I want to say at the start that I am an optimist. While this past week has seen more turmoil in the national economy than usual, I know that this nation has the ability to emerge stronger than ever before. I know this because in adversity, there is always opportunity. Very often, it requires a jolt to galvanize a consensus on major public issues.

One of the great opportunities that confronts us is increasing our ability as a nation to compete more effectively in the world. The United States of America is blessed with the world's deepest reservoir of human resources, and it is precisely these skills, technical knowhow, and innovative spirit that have the potential to propel our country to heights as yet undreamed.

After all, it is a given that economic expansion is predicated on continued job growth and development. Historically, the key to job development in this country has been the cultivation of a work force that was not only the best educated, but also possessed the skills necessary to create the manufactured goods needed by an ever-expanding economy.

During our first two centuries, as our economy was evolving from agrarian to manufacturing, the government, particularly state and local governments, had taken the lead in constructing a system of free, universal public education. Thanks to this emphasis on learning, we emerged as the strongest nation the world had ever seen. At the same time, much of the burden for skill development and job training was left to the private sector, and generally, this system worked.

But now, as this nation moves into the first stages of a post-industrial economy, with its rapidly changing skills and needs, it is no longer enough to provide young people with a loosely focused general education and then send them out into the world with a diploma, a wish of good luck, and a hope that the private sector will take care of the rest.

I'm sure that you're all familiar with the extent of the human toll and economic impact that we face today:

- An estimated 13 percent of 17-year-olds in the United States are functionally illiterate, with the figure climbing to 40 percent among our minority population.

- Functional illiteracy costs this country $25 billion a year in lost productivity, accidents, damage to equipment, and government support payments, according to a report published by the Business Roundtable on International Competitiveness.

- According to that same report, the results of a seventeen nation educational study showed American students trailing all industrialized nations except one (Sweden) in quantitative skills.

- The U.S. Department of Labor has projected that virtually all new job creations will come in service industries, and that these new jobs will demand a much higher skill and educational level than the jobs of today.

Our charge is clear. To meet our current needs, as well as those of the future, it is absolutely essential that government leaders forge new linkages between our system of education and the requirements of the private sector. At the same time, we must reinvigorate our educational system, renew our dedication to excellence, and raise our standards to new heights.

The National Governors' Association has been spearheading action on this agenda of fundamental importance. In its 1991 report on education, Time for Results, the nation's Governors closely examined the problems inherent in our current system of education, asking the tough questions that are necessary to move us to the next step. During the past year, Governors have been applying these questions to their own states, and have begun to redirect their educational structures to meet the demands of tomorrow.

I would like to share with you some of the steps we've taken in Rhode Island to bring about what is being referred to in the national press as the "real economic miracle in New England."

We began with a state economy that was decidedly anemic, even by the standards of the national recession of the late 1970s and early 1980s. Our unemployment rate was above the national average, income was below the national average, and we had emerged from the decade of the 1970s as one of only two states to actually lose population. Our national reputation, moreover, was of a state that was unfriendly to business interests, to say the least.

Today, Rhode Island can boast of one of the lowest unemployment rates in the nation, and the lowest peacetime rate ever in state history. Personal income has skyrocketed to above the national average, and private surveys have pegged Rhode Island as one of the top six "magnet" states in terms of families relocating in the state, rather than moving out. There are more people working now in Rhode Island than ever before, and because of this growth, state government has reaped a bonanza in resources, topped by a record surplus this past year which exceeded 10 percent of the entire budget as originally enacted.

None of this good fortune came about by accident or luck, nor was it solely the result of one person. Rather, at the outset, we designed a series of steps, including tax cuts, and repeal and reform of laws and regulations which made Rhode Island overly costly to doing business. Then we aggressively promoted ourselves around the globe, and our efforts have been rewarded with an unprecedented amount of foreign investment, from Japan to West Germany to Great Britain to Italy. But none of this would have been possible without building the necessary public-private sector partnerships which had set the stage for reform.

Now that the initial phase of the Rhode Island economic renaissance has proven so successful, we are ready to embark on a new series of initiatives designed to enable our state to compete even beyond the level of success which it now enjoys.

I have made educational excellence my single highest priority for 1987, and earlier this year signed into law a number of programs designed to motivate educational innovation and quality at all levels, while raising standards across the board. Some of the highlights included:

- Literacy and Dropout Prevention Act of 1987--Sets minimum literacy standards; extra emphasis on literacy skills for all students K-3; remedial help for students K-12 performing below set standards; reduced class sizes in early grades; financing through set-aside of state aid to local school districts.

- Educational Excellence Fund--Provides funding for a number of programs designed to spur innovation at school district, school building, and classroom levels; funds for textbooks, library books, and classroom equipment.

- Total revamp of statewide vocational-technical system, providing funding for programmatic changes and additional students, including younger students, minorities, handicapped, and adults.

- Increased adult education opportunities through interagency partnerships; emphasis on helping disadvantaged adults in achieving high school equivalency; program aiding pregnant teenagers in receiving their diplomas; and a program giving high school equivalency classroom instruction on public television.

With the additional resources supplied to our education community, of course, comes a responsibility to produce results. I fully expect that the public, while understanding that the evolutionary nature of such sweeping reform requires a generational perspective, will demand accountability for their investment, and rightly so.

In Rhode Island, we have also recognized the necessity of bridging the gap between public labor market policy and the requirements of the business community. To this end, we have developed a far-reaching program to reshape and guide the direction of growth in the Rhode Island labor force. This program is called Workforce 2000, and has been adopted as a national model by the U.S. Department of Labor. It also stands as one of my highest priorities.

This workforce model provides the private sector with a direct channel to enter into partnerships with government to educate, train, and retrain. Workforce 2000 represents a comprehensive effort to marshall the state's resources in pursuit of the long-term objective of a Rhode Island work force with the skills, education, training and supports necessary to succeed and prosper in the economy of the future.

The economy in which current workers must compete for jobs -- and in which the workers of tomorrow must compete -- is changing rapidly. We are witnessing the transformation of the American work place in pursuit of competitive advantage. Technology is rapidly changing the skill levels required of workers to be more productive. And the new, high-growth industries of the future require much different skills and training that the work place of yesterday.

Specifically, Workforce 2000 incorporates the following aspects:

- Worksite Literacy Programs.
- Worksite Daycare Task Force.
- Customized training and retraining programs in partnership with government.

- A greater role in guiding vocational education and community colleges so that they can better respond to the needs of industry.

I'm very optimistic that Workforce 2000, because of its interagency makeup and public/private scope, can most effectively address the labor market problems facing Rhode Island for the decade of the 1990s...and beyond. I also believe that over time, this program must maintain its flexibility and vitality to respond to changing needs, rather than become just another bureaucracy in search of a mission.

Let me conclude by stressing that the best approach to the problem of competitiveness is to act upon the key relationship between education and economic development.

Moreover, it is essential that government initiate and maintain a dialogue with the private sector; it is, after all, the business community which is the great engine of job creation.

It is important that the federal government realizes that states need the latitude to develop programs designed to meet the needs of their citizenry, and, let me add, that we should not be penalized for our success. Low unemployment rates generally means fewer federal training dollars. Yet, these same states often have more and better jobs which require special training.

And finally, the federal government should never hesitate to seek out innovation at the state level. Today's hearings are evidence of that commitment, and along with Governor Clinton, I'm very proud to have this opportunity to take part.

I'm sure we are all committed to restoring America to a position in which it is once again the most competitive nation on earth. This country has succeeded because it is unafraid of new approaches -- while maintaining the fundamental strengths handed down to us by our forefathers.

I began my testimony today by reaffirming my optimism in the future. By taking the necessary steps today, I remain confident that America's brightest days are yet to come.

Thank you very much.

Representative **Scheuer**. I didn't make a lengthy opening statement because I was eager to get on with the witnesses and since we have with us the distinguished chairman of the Education and Labor Committee, I didn't want to take up time with that. But to illustrate the problem you talked about, that is, the relative disadvantages facing our young people entering the work force compared to young foreign students who enter their work force, on a recent test of comparative student achievement completed about a decade ago, on nine different scores of academic achievement, U.S. students didn't score first or second in any category and we scored last in seven of them.

Now that's a devastating indictment. Not of our kids. They're great kids and they have enormous potential. But as you say, it's an indictment of the knowledge and the reasoning capacity and the training that they get in our school system. "The fault lies not in the stars, dear Brutus, but in ourselves," and not in our kids, but in the way our adult society educates and trains those kids. That's where the challenge is and you pointed that out beautifully.

Governor **DiPrete**. I think you're absolutely right, Mr. Chairman, and if I could take 30 seconds, I think a lot of this historically goes back, if I can say so, into the permissiveness in the schools in the late 1960's and early 1970's where schools seemed to be striving for somehow a revolutionary type curriculum and the classes were almost rap sessions, if you will. We got away from the basics and I think our young people paid dearly for that.

Very fortunately, the pendulum has swung the other way. We realize the necessity of instilling basic skills and discipline in the schools and the kinds of curriculum I think being presented to the students today are addressing and focusing in on the proper needs of today and of the future and I am very optimistic that our test scores will be favorably improving year by year.

Representative **Scheuer**. And we'll get to this in the questioning period. I don't want to spend more time before we get to Secretary Marshall, but I think Governor Clinton made an important point, that it's not only in the three R's, reading, writing, arithmetic, but it's in cognitive ability; it's in problem-solving ability.

Governor **DiPrete**. Absolutely.

Representative **Scheuer**. It's in the ability to deal with the data base and come up with problem-solving approaches. That can be taught in schools, too. And I know you both agree on that.

Our last witness on this panel is the very distinguished former Secretary of Labor, Ray Marshall, who is now teaching at the L.B.J. School of Public Affairs in Austin. We are delighted to have you, Secretary Marshall. Please take such time as you may need.

## STATEMENT OF RAY MARSHALL, PROFESSOR, L.B.J. SCHOOL OF PUBLIC AFFAIRS, AND FORMER SECRETARY, U.S. DEPARTMENT OF LABOR

Mr. **Marshall**. Thank you, Mr. Chairman. Let me add my voice of commendation for your having arranged these hearings. I've looked over the organization and witness list and it seems to me that you are dealing with what is undoubtedly the most important problem that we face in the country.

In your letter you asked us to address a number of questions. One of those was, why skill requirements are changing in the American work force, and the short answer to that is because, of course, the world is a very different place now than it was when many of our economic policies, our basic attitudes about the economy, and our school systems were organized and rooted.

Our school systems particularly are rooted in a mass production, goods-producing, agricultural society and still there are many marks of such a society. That's one of the reasons the United States has one of the shortest school years and school periods of any major industrial country. It spends less time in the classroom than most other students. When a Japanese youngster finishes high school, he or she has had 4 more years of actual classroom time than the typical youngster who finishes in the American school system.

Representative **Scheuer**. Which country was that?

Mr. **Marshall**. Japan. And they have had usually math through calculus, 6 years of math and science and, therefore, very rigorous education.

Now our school system is not geared to that kind of world, that kind of education. I think we need to give a great deal more attention to that.

I also would add my support to the comments by Governor Clinton about the kinds of skills that workers need. I would preface that by saying the whole issue turns on the answer to one question and that is, what kind of country do we want to be?

The Chinese have a very good proverb which is that if you don't change the direction, where you're headed is where you're going to wind up, and we are not headed, in my estimate, in a very good direction. Therefore, if we want to continue those directions, the answer is don't do anything. But if we really want to be a high-wage country with economic leadership and we want to be a multiracial society that is able to demonstrate leadership in such a world, then we have to have a very different kind of system than we have had. And that's what these reforms are all about.

It seems to me what we have to think about are the new basics, not the old basics, because the old basics won't do it any more and you've got to have people who are taught in a very different way, taught by different kinds of teachers in a different kind of setting. They have to know how to solve problems and reason, but I would say that there are two things that I would add to emphasize and underscore what Governor Clinton and Governor DiPrete said, and that is that we need to pay a lot more attention to learning itself.

That ought to be one of the most important skills that people come out of school with—to have some understanding of how you learn. It's amazing how little attention the schools have given to that issue. You would think that that would be high on their list of things—the learning skills.

Schools, in my judgment, do far too little research even on the learning process. Some American companies are doing much more research on that issue than many of our colleges and universities. If our people come out with a learning skill in their pocket, they're going to be able to handle change and that's the kind of world we live in and a rapid accumulation of knowledge, and that's the kind of world that they're going to have to deal with. They are going to be information workers, knowledge workers, and therefore, they will have to know a great deal about learning.

I would say one of the main limitations of our schools and our society is that we have given far too little weight to what Governor Clinton called the higher learning skills, and especially the——

Representative SCHEUER. Now would you elaborate on what you mean by that?

Mr. MARSHALL. What I mean by that and the reason it's so important is first it means not just learning by rote. We've been getting people ready to do things that are obvious, things that you can see, working on assembly lines or working in agriculture and doing routine work. Therefore, you didn't really have to be able to deal with change or problem solving in a lot of occupations.

But the kind of world that we're moving into requires an ability to deal with abstractions and the main reason for that is that the main key to the competitiveness of the American economy is technological innovation and the use of technology.

Now that requires that you understand a lot of abstractions and have abstract knowledge that is not easily learned on the job. You cannot see what's happening on a 256K ram chip. You cannot be creative, by definition, unless you can deal with abstractions because creativity is that which can be seen only in the mind's eye and not observed by doing.

That does not mean, however, that you need to separate out—I think it would create a false dichotomy between academic subjects and vocational subjects. The best vocational subjects would give heavy weight to the academic skills and the best academic programs would give heavy weight to learning by doing—the unity of thought and action—and we haven't done that. We've paid a lot of attention to passive learning in our school systems and not enough to active learning and particularly to understand the importance of abstractions and problem solving.

That's one of the real advantages of high standing in mathematics. It's not just the substantive aspect of mathematics. It's the habit of thought that mathematics gets you into that, in my judgment, is as important as being able to use the mathematics.

So I think all of those things—and I also believe that workers are going to have to have higher understanding of the world, understanding of the economy than they've had before. I believe that the most successful businesses of the future will be those that heavily involve their workers in decisionmaking, and we haven't done that.

There's a tradition in the United States that's been authoritarian and scientific management and the assumption that all that workers have to bring to the work is brawn and now brains. The better systems make the assumption that the workers understand the work better than anybody else; they have a stake in it. In many of our companies, the only people who really do have a longrun stake in the companies are the workers. Therefore, if they are given an opportunity to participate, that requires a different kind of education and learning. I think it requires more knowledge of the world.

Now let me make several points and these are all elaborated at some length in my prepared statement. The first point is that if we want to be a high-wage country and we want to have equal opportunity for our people—that's what I mean by competitiveness—if you're not worried about wages, there's no competitiveness problem because if all you're interested in is external balance. Haiti has external balance, but they have it at very low wages and, therefore, you don't have to worry about that. But if we want to be a high-wage country, then it seems to me that there are several prerequisites to that.

One of the most important is to recognize we have to be much more concerned about productivity, about quality, about efficiency, and flexibility, the ability to adjust to change. If you think about it, there are only about four ways that you can compete in the international environment.

One is according to wages and if we try that we'll lose because we are a relatively high-wage country—no longer the highest wage country, but still a relatively high-wage country.

The second way you can compete is according to productivity, quality, efficiency, which means better management. Here we have no clear advantage and in some industries there are serious disadvantages. And part of that I believe is we need to pay a lot of attention to strengthening our management systems and I believe industries like the automobile industry are rapidly trying to do that. They're not world class, but they are rapidly trying to be world class. One of the main things they are doing is adopting more participative management styles.

The third way you can compete is according to technology because the advantage of technology is that you have what the economists call "RIFT," that you have something nobody else can do and therefore you can charge a higher price. You're way out on learning curves. And that is where we have a substantial advantage and where we ought to try to keep it.

The fourth way we can compete is where, in my judgment, we have serious disadvantages, and that is according to our policies. We don't have a competitiveness strategy in the country. Our policies are incoherent. We tend not to pay attention to any particular objective and I think it's part of our ideology that we seem to be opposed to establishing goals and consensus building toward those goals that other countries do and this causes a great deal of trouble.

Therefore, it seems to me that all of these things require that we pay a lot more attention to the quality of our work force and any of those areas of competitiveness except low wages will require you to pay more attention to the quality of your work force.

It's fairly clear to me that if we lose our technological advantage, we will compete mainly according to wages and that implies a continued decline of real wages for American workers in this country and so we ought not to do that. Therefore, it seems to me that we have to pay a lot more attention to education and learning systems at every level.

Let me emphasize that one of our problems, and one of the things that this committee can do that is very important, is to give us better measures and understanding of what we mean by the quality of the work force. All these schooling measures don't really tell you a lot. If you look at years of schools, the United States stands pretty high. If you look at achievement of the students, we don't stand so high, as you indicated in your remarks.

The things that we don't know about, though, are the other aspects of the quality of our work force. Fortunately, I think for us, most of the really important learning that has economic significance takes place on the job and, therefore, we need to know more about those learning systems. I notice that you have witnesses who will say a fair amount about that and I think the schools can learn a lot about the learning process itself by looking at what some companies are doing.

There are a number of companies that will now give you a degree. They have very efficient learning systems. We've learned some from them on how to do the learning in the Job Corps. In fact, you can learn a lot about efficient learning systems if you look at the Job Corps and what's happening there, and there you take seriously disadvantaged, educationally disadvantaged as well as economically disadvantage youngsters, and in a relatively efficient learning system move them with about 100 hours of instruction or maybe 2 years or more, depending on the individual. It's an individualized, self-paced, competency-based system and many companies are using that. The Defense Department is using that, and I think our schools are going to have to pay a lot more attention to those efficient learning systems, but the companies are using them now.

Now the problem, of course, is that the evidence suggests that what kind of learning system you get into on the job depends on what kind of learning you had in school, and therefore, there is a close relationship between those and what schooling does, if they have really taught you to learn, and the best schooling will frequently get you into the best learning opportunities on the job.

The thing I worry about is that minorities and women tend to not get those best job opportunities, regardless of their levels of education. So if you are going to be concerned about equity and educational equity, and I think we have to, then we have to give heavy attention to that fact. You know, white males stand to get the best learning opportunities and black males get the worst.

If you are given the demographics, I think we have to worry a lot about that.

I believe that educational equity ought to be high on our agenda. All you have to do, if you think about competitiveness, is look at what the future of the American work force is going to be. Almost all of the increase in our work force will be women and minorities for the next hundred years. In the year 2020, when the postwar baby boom generation retires, there will be 91 million minorities in the United States, given conservative assumptions about immigration. There will be 3 million more Hispanics than black. They will be 34 percent of the population. They are 17 percent of the population now. They will probably be closer to 40 percent of the work force then than now.

Therefore, if we are going to try to compete on something other than wages, we had better be seriously concerned about the deplorable conditions of minority education in the United States. They don't even meet the standard of a rising tide of mediocrity, and there is no evidence that it is getting much better, even though there is some relative improvements on the SAT scores.

Now you ask, in your letter also, what can the Federal Government do about all these. I believe that education is mainly a State and local function, and it ought to be in this country, but I think there are important things the Federal Government can do.

I think it is first important to recognize that educational reform alone will not solve our problems, will not make us competitive, because there is no substitute for the right set of economic policies overall, but if you concentrate mainly on what we can call the quality of work force issue, I think the first thing the Federal Government needs to do is to elevate the importance of intellectual activity on our national goals agenda.

There is a lot of difference between school reform and emphasis on intellectual activity. America has always given more weight to schooling than to education, and I think there is a very important distinction. What we are talking about with this higher order learning and thinking systems requires that you give much more weight to intellectual activity. I think Federal officials especially need to be concerned about two very dangerous myths that seem to be relatively pervasive in our policymaking.

The first myth is that all these human resource development programs and education are costs and not investments, and if you look at it that way, then your attitude is very different—it is what I call the "OMB attitude"—about the world. OMB, in my judgment, knows the price of everything and the value of nothing. [Laughter.]

And therefore, I used to say to them, "You might get that money out of the budget, but you are not going to get the problem out of the country." And therefore, you better look at this as an investment. We are going to pay for it, and we are going to pay dearly.

Governor Clinton talked about the prison system. The same thing happens in Texas. Prison is one of the fastest growing industries in Texas, and they are busting at the seams now. I understand 80 to 90 percent of those people in Texas State prisons are functionally illiterate, and the evidence is overpowering that basic competence and the grasp of basic competence is terribly important in dealing with those kinds of problems.

Now the other main myth, I think, that has caused us some problem in the country is the assumption that education achievement is mainly due to innate ability and not to hard work. If you look at that evidence in other countries, the answer from all the research that we know about is the main reason these students do better in other countries is that they work harder. They spend more time on the subjects. Now apparently what many people in the United States believe is that hard work is not what is required, but that you inherently have greater ability. If we believe that, then what we do is start tracking people. We assume that minorities and the poor can't learn, and they are slow learners, and we put them with slow learners, and we make that a self-fulfilling prophecy, and that is a very dangerous attitude that we ought to try to attack across the board.

I think the Federal Government needs to fund basic research on the learning process. It ought to do more to act as an education clearinghouse for better and more reliable data. Much of our data is being collected also on the basis of this 1950's or 1920's kind of economy and work force and not the kind of work force that we are in right now, and that makes it very hard to deal with a lot of those problems. I think the Federal Government has a major responsibility to pay attention to educational equity by creating the means for the disadvantaged to develop themselves and for poorer school districts to acquire adequate resources.

Governor Clinton mentioned the declining rate of enrollment of blacks in college. That gap narrowed between blacks and whites, percentage wise, from 13.6 in 1973 to 3.6 in 1975, but has widened now to 7.9 in 1983 and is probably wider now. And one number, I think, suggests the main reason for that. Forty-eight percent of college-bound blacks come from families with less than $12,000 annual income and 10 percent of college-bound whites come from such families. And therefore, financial burden is clearly an extremely important reason.

If we are going to be concerned about educational equity, we have to look at the problems confronting minorities and the educational disadvantaged at every level. Preschool, but even more important than preschool, might be what you do with prenatal and what you do with perinatal and postnatal. The WIC Program is one of the best—women, infants and children—has one of the highest rate of yield of any program. No business would pass up the kind of return that you get from these programs. The early childhood gives you something like 4.75 for each dollar you spend. The WIC Program gives you around 3.

Well, if you look at that as an investment, then you know that if you start school way behind, that is one of the reasons for the dropout. The longer you stay in school, the further behind you get. And you solve some of those problems that the Federal Government has a major responsibility for.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Marshall follows:]

## PREPARED STATEMENT OF RAY MARSHALL

### Introduction

Mr. Chairman, members of the committee, I am very pleased to have been asked to share my views with the Joint Economic Committee on the importance of work force quality for the performance of the American economy.

These hearings are being held at a time of significant uncertainty with respect to America's position in the world. The internationalization of our economy; technological change, especially the "information revolution"; and fundamental demographic and labor market changes--especially the rising proportions of minorities in our population, changing family structures and the increased labor force participation of women--require careful rethinking of our basic policies and institutions. There appears to be an emerging consensus that personal and national economic welfare will depend heavily on the quality of our work force. Improved work force quality will, in turn, require radical reforms in our school systems. But, as my remarks will attempt to demonstrate, much more is involved if we wish to maintain or improve personal incomes and our national economic strength.

I would like, first, to address what seem to me to be the most important changes taking place in the American economy and then to discuss some of the implications of these changes for education and work force quality. I conclude with some federal policy recommendations.

## The Economy

Although the American economy is experiencing some ominous long-run trends, it has strengths as well as weaknesses. The strengths provide the foundation for overcoming the weaknesses. On the positive side, while we are not as strong relatively as we were in the 1950s and 1960s, the United States still has the strongest, most productive economy in the world. Since the early 1970s our economy has, in addition, generated more jobs than any other industrialized economy. The American economy also has substantial advantages in technological innovation, dynamism, entrepreneurship, and creativity. And compared with most European economies, ours has demonstrated considerable flexibility in adjusting to change. This is very important because in a dynamic internationalized information world flexibility and productivity are the main requirements for success in people, institutions, or nations.

On the negative side, the American economy is losing its competitiveness in international markets, and not just in the older smokestack industries. The President's Commission on Industrial Competitiveness reported in 1985 that we were even losing market share in seven out of ten high tech industries.

One of the most troublesome trends is in the critical area of productivity growth, which has slowed substantially since the 1960s. Moreover, the fact that U.S. productivity growth is the lowest of any major industrial country has ominous implications for our international competitiveness and our ability to maintain real wages and family incomes, both of which were lower in 1986 than they were in 1973. In fact, real family incomes have fallen despite the dramatic increase in the labor force participation of women.

Slow productivity growth is one of the reasons that, despite its leadership in job creation, the American economy has not done very well in maintaining real wages. Moreover, despite a substantial slowdown in work force growth, job creation has not been high enough to prevent a secular rise in unemployment. The human and material costs of joblessness are therefore substantial and growing. The cost in lost output alone is at least $200 billion a year, and the costs in human suffering and numerous social pathologies are large, although difficult to quantify.

The American economy has performed reasonably well relative to Europe, but not relative to Japan and the "little Japans" in the Pacific. Japan especially has been much more effective in maintaining low levels of unemployment and inflation while improving the industrial competitiveness of its companies and the real incomes of its citizens. The U.S., by contrast, has not been able to sustain coherent economic policies, with the consequence that our economy has experienced considerable instability and uncertainty. While education reforms and improved work force quality are critical to international competitiveness, these reforms alone will not be adequate--we also must have supportive economic policies. Indeed, there is strong evidence that our economic problems are due more to *public* policy failures than to deficiencies in our *private* systems, though we have problems in both areas. The widening gap between the actual performance of the American economy and its potential and our inability to keep inflation under control without unacceptably high levels of unemployment are especially serious problems.

The declining competitiveness of U.S.-based companies is at the root of many of our economic problems. This loss of competitiveness is measured by declining market share and low profit margins for U.S.-based companies, lower real wages for American workers, growing trade deficits, and unprecedented national and foreign indebtedness. In a relatively few years the U.S. has been converted from the world's largest creditor to the largest net debtor. We are consuming about 2.5 percent more year than we produce. Our potential living standards and those of our children will be reduced as these foreign debts are repaid. The American economy also has become seriously dependent on foreigners' willingness to fund our deficits.

The loss of competitiveness by U.S.-based companies has complex causes, some of which are troublesome and some of which are not. We should not worry, for example, about that part of our *relative* loss caused by the growing economic strength of other democratic industrial countries. These developments were both inevitable and desirable. They improve our *absolute* position by providing more and cheaper products for American consumers and better markets for American exports. The relative strength of democratic, market economy countries contrasted with the obvious and growing weaknesses of the undemocratic, controlled systems makes free and democratic institutions much more attractive world models.

We should, however, be very worried about that substantial part of the loss of U.S. competitiveness caused by our own poor policies, inefficiencies, and institutional failures. As the strongest democratic country, our failures weaken support for the American system.

It should also be stressed that American industry must be competitive in global markets if we are to maintain our standard of living and national power. We are far too deeply involved in, and benefit too much from, the international economy to attempt to withdraw or to even risk degenerating protectionism. We should, however, recognize that the ideological commitment to "free trade" has little meaning. The people of all countries have much to gain from an open and expanding trading system within the framework of fair, transparent, and enforceable rules. Now that other countries are stronger, we cannot continue to support a "free trade" regime based on the principle that we will give other countries greater access to the American market than American companies have to theirs. We must, moreover, develop a global competitive strategy that will make it possible for us to maintain or improve American living standards and the profitability of U.S.-based companies.

In developing this global strategy, our competitive advantages and disadvantages can be grouped according to wages, management and production systems, technology, and policies and institutions. The Korean example cited in the 1986 report of the Carnegie Task Force on Teaching shows how hard it would be for U.S.-based companies to compete in standardized, wage-intensive activities. That report cited the example of employees in a modern home video recorder factory near Seoul who worked seven days a week, 12 hours a day, with two days off a year and earned $3000 a year. I have not examined that situation systematically, but discussions with representatives of U.S.-based companies in Korea suggest that these workers are well off compared with other Koreans and are at least as highly educated and skilled as comparable American workers. We also should note that by third world standards, Korean wages are high. So, a strategy based on wage competition implies a continuing, perhaps dramatic, decline in American wages and living standards.

The second source of international competitiveness, management and production systems, is applicable mainly to big ticket items like automobiles, basic manufacturing, and high tech products like computers and microelectronics. In these items, productivity and quality are very important. These outcomes are determined mainly by management systems, an area of considerable ferment where obsolete and inefficient U.S. management systems are either giving up or frantically trying to become world class. Many American companies have competitive managements, but many do not. The jury is still out on the extent to which noncompetitive American companies will be able to develop world class production systems. In this area, competition is not entirely or even mainly on the basis of direct hourly wages. Quality, productivity, and other costs are more important. In the automobile industry, for example, the virtual elimination of the U.S.-Japanese hourly wage differentials for subcompact cars because of the increase in the value of the yen relative to the dollar have still left a Japanese cost advantage of $300-500 per car. The Korean advantage remains much larger than that, but mainly because of lower wages. The Japanese have substantial advantages in productivity and the costs of fringe benefits, white collar workers, and nonlabor items. Many of these advantages, like the very low cost of capital and unemployment compensation, result from Japanese policies, not just to management and production systems. For instance, according to a Data Resources, Inc. study, the net after-tax cost of capital between 1973 and 1983 was almost zero in Japan and over 5 percent in the U.S. This was due in large part to a high interest strategy in the U.S. and a low interest strategy in Japan.

The third source of competitiveness, technology, is where the U.S. has its greatest advantage as well as its best chance of remaining competitive. Technology is important not only as an industry, but also because technology, especially information technology, is infrastructure for *all* industries, including services. Since information technology will be ubiquitous, the distinction between "high tech" and "smokestack" is a false dichotomy. The American automobile industry, for instance, is becoming a very important user of high tech.

The U.S. has an advantage in this sector because knowledge development tends to be incremental and cumulative and the U.S. is way out on a lot of technological learning curves. This means that even though our technological advantage is diminishing, with the proper policies the U.S. should be able to sustain an edge that would be very difficult for other countries to overcome. It is important to maintain this edge because if the same technology were available to everyone, U.S. producers would lose this advantage and therefore would have to compete on the basis of prices, production systems, and quality--all areas where our companies have serious deficiencies relative to their strongest international competitors. Because of the increased speed of technological transfer and shortened technological life cycles, the U.S. must constantly be innovative if we want to maintain a technological lead.

The last area of competitiveness--policies and institutions--is, in my judgment, the area where the United States has its most serious disadvantages relative to our strongest competitors. Not only do we have no competitiveness strategy, but our policies actually put American companies at a serious disadvantage relative to our strongest competitors. Some examples include:

1. We have no coherent strategy to stabilize international financial and trading systems within the framework of workable rules. The U.S. is the only democratic industrial country strong enough to provide the leadership to stabilize and modernize the international trading and financial systems. Unfortunately, our ideological commitment to laissez-faire policies causes us to eschew cooperation in favor of unilateral actions that have destabilized the international system.
2. Our macroeconomic policies are incoherent and uncoordinated and have caused wide fluctuations in exchange rates and large and growing budget and trade deficits as well as very high real interest rates which greatly increase the cost of credit to American business.
3. Our international trade policies are passive, incoherent, and ideologically driven. Instead of working for international agreement on enforceable trade rules, we unilaterally open the American market in strategic areas like telecommunications, electronics, and financial services before requiring reciprocity in these areas from other producers. We also have ignored the active policies other countries' political and business leaders have adopted to reduce our market share in strategic industries.

4. Finally, instead of working for consensus-based policies between the public and private sectors and between various private interests, especially labor and management, our ideological commitment to laissez-faire policies causes these relationships to be unnecessarily adversarial. We therefore spend an inordinate amount of our energy and resources on litigation and conflict.

## Implications for Education

Although an analysis of these areas of competitiveness seems to imply the need for greater attention to research, education, and human resource development, there is some dispute over whether in the next 30 years most new jobs will require workers with more or less education. In the future, according to some analysts, most workers will need less education because the new technology will tend to deskill jobs, creating a few positions for highly educated scientists and technicians, but a much larger number for unskilled workers with little education or training. Moreover, in this view, most of the new jobs in the next 20-30 years will be in the unskilled services, not in high tech occupations that are growing rapidly in *percentage* but not in absolute terms.

A full review of this controversy is beyond the scope of this presentation, but the evidence suggests to me that while deskilling is possible, if we want a world class economy, future workers and citizens will need more, different, and continuing education, not less.

Given this assumption, several realities should cause us to give high priority to human resource development.

The first is a very basic and important principle: educated, trained, healthy, motivated people are, will be, and always have been almost unlimited assets, while uneducated, untrained people are serious liabilities. In the past, most of the increases in productivity have come from advances in knowledge and human capital. The proportion of increased U.S. productivity due to physical capital, for example, has been only about 20 percent since 1929, when we started keeping such statistics. Developed, motivated people also are more likely to make the decisions and develop the institutions required to solve problems and use resources efficiently.

Second, as noted earlier, international competitiveness places a premium on *productivity* and *flexibility*, both of which are enhanced by sound, basic education--defined as "trained intelligence," literacy, and numeracy, not just years of schooling. In the long run, the only way to compete on terms that will permit real wage growth is to achieve improved productivity.

Third, even though we cannot yet specify these requirements with great precision, we can be reasonably certain that competitiveness in the emerging international economy will require very different kinds of skills, education, and training than were adequate for a more national, goods producing world. We can be fairly sure, moreover, that uneducated, untrained people will have great difficulty making a decent living in a world full of better educated, highly motivated people who [illegible] willing to work very hard for low wages. Some argue that workers who cannot find competitive manufacturing jobs will continue to work in those services that require less education and are less competitive. There are several things wrong with this argument. First, most service jobs will require higher levels of education. Second, those who have higher levels of education will get the best service jobs. And third, no area of the economy--including services--will be safe from competition in an increasingly competitive environment. As technological innovation and internationalization proceed, therefore, the services, like manufacturing, must compete directly and indirectly in the global economy.

It also is fairly clear that whether or not we choose a competitive strategy people will have to deal with change, a fact which has important implications for education. Workers who confront constant change cannot be *drilled* in simple routine tasks that are better done by robots and machines. People have a comparative advantage in work requiring discretion, judgment, and creativity. This means that the most successful people will know how to learn, to solve problems, create, deal with ambiguity and inadequate information, communicate with precision, relate well to other people, and adjust to change.

One of the most important new learning requirements for workers in an internationalized information world is the need for *theoretical* and *abstract* skills usually acquired through formal study. In the past, American workers have favored learning by observation and doing. In a goods-producing world, workers didn't need many abstract analytical skills to be able to do most jobs or even to be reasonably good farmers. In these goods-producing activities, people could observe what was happening and learn from observation. In information jobs, by contrast, it is not possible to observe what is happening. We cannot see what is taking place on a computer chip or in an electrical circuit. Competitiveness in a global economy also will place a premium on creativity. To be creative, people have to produce that which can only be seen in the mind's eye. Both creativity and an understanding of what is happening in modern work situations and how these relate to global production activities therefore will require much greater attention to abstract knowledge and skills.

This does not mean, however, that learning can be entirely abstract or "academic." Abstract subjects usually are best learned through experimentation and doing. Learning systems therefore should stress the unity of thought and action--of abstract theoretical knowledge demonstrated through application.

There will be little place in a world class learning system for either "vocational" subjects that do not teach strong communications, mathematical, learning, reasoning, and problem-solving skills, or "academic" subjects that give inadequate attention to quantification, technical knowledge, experimentation, and performance skills.

The most competitive production systems probably also will require workers with more managerial skills and a broader knowledge of other countries and cultures. Although the most competitive systems will continue to make it possible for workers to form independent organizations which they control, the lines between workers, owners, and managers probably will continue to be blurred in the most competitive systems because the most viable of these systems are likely to have much more worker ownership and participation. There is considerable evidence that the most productive systems will be those that devolve responsibility to the work place. In such systems workers will be valued more for what they know and know how to do than what they actually do. These work places often will be more like schools and laboratories than factories.

Thus, all of these changes mean that improvements in personal incomes, industrial competitiveness, and national security and power will depend heavily on the quality of our human resources. It should be noted, moreover, that in an internationalized information world where what is good for a company and what is good for a country are not necessarily the same, a human resource development strategy is the surest way to guarantee that national policy will benefit the American people.

## The Need for Fundamental Education Reforms

A number of basic realities demonstrate the need for vast, fundamental changes in our education system. The first is the well documented education deficiencies of American schools, especially the poor performance of American students on math and science tests relative to students in other countries, high dropout rates, high levels of incompetence of too many graduates of our schools, and the very unproductive use of education resources. Education, like other systems, tends to reflect the conditions existing when its main features were formed. The American education system was formed to meet the needs of a mass production, goods producing and agricultural society whose workers were mainly unskilled, uneducated (often immigrants), engaged in simple, standardized, repetitive tasks. Clearly, this learning system is no longer adequate for an internationalized information world.

Since we will get the kinds of schools the people want, we should be concerned about the relatively low status Americans seem to assign our education system. Despite lip service to the concept, and broad public knowledge of the importance of human resource development, much higher value must be assigned to intellectual activity if we want to develop a really world class education system. One is struck by the contrast in the low priority we assign rigorous learning in the U.S. relative to those countries like Japan, the "little Japans" of the Pacific Rim, and our strongest European competitors. In Japan, for example, I was impressed by the fact that 90 percent of all school children have their own private desks at home, teachers are among the best paid professionals, and the whole society assigns considerable resources and status to teachers and to education. I would not advocate emulating some of the more regimented features of the Japanese system, but we should assign at least as high a value to learning and thinking as they do.

The low status of education in America is probably because our past insularity, abundant physical resources, easy economic growth, and high incomes have made it possible for most Americans to do reasonably well without as much attention to the development of our people. Countries poor in physical resources, by contrast, have been forced to develop their human resources and therefore are in excellent position to capitalize on the advantages an internationalized information world gives to well trained, highly motivated, well educated people. The lesson in this for us seems fairly clear. We must value trained intelligence much more than we do if we are to avoid the decline and fall of the American system.

Among the most troublesome aspects of the American system are the very serious educational deficiencies of minorities. Almost all of the net increase in the work force for the next three and a half decades will be women and minorities. Minorities will therefore be a growing proportion of the population and the work force. This is so because whites are older and are more likely to have pensions and wealth that make it possible for them to retire. It is estimated, for example, that there will be 91 million minorities in the U.S. by 2020--3 million more Hispanics than blacks. They will be 34 percent of the population, compared with only 17 percent in 1985, and probably almost 40 percent of the work force. Minorities will, of course, be even larger proportions of our school populations even earlier. Our future therefore depends heavily on the extent to which minorities are able to develop themselves. In the long run, it will be much more expensive for us to ignore this festering problem--which, despite improvements in recent years, does not even come up to the standard of "a rising tide of mediocrity." We do not have to choose between educational equity and excellence--we must have both, and they are not incompatible.

It also would be a mistake to assume that we can get by with a small cadre of well educated people. Since modern technology will be pervasive, its efficient dissemination will require uniformly high levels of technological understanding. Similarly, a few highly educated people will not be able to support an American economy with many poorly educated people who are unable to pay their own way. Undereducated people also will not be able to participate effectively in democratic decision processes. For these reasons, it would be very dangerous to assume that quality education could be restricted to an elite few.

It would, however, also be a mistake to assume that the shortcomings of American schools either are mainly a problem of minorities or due to a deterioration in the quality of education relative to some golden era. The problems are general and systemic. We therefore need to create a *fundamentally different system*, not to just patch up the one we have. Fundamental reforms will require improvements in educational productivity, as well as additional human capital investments. A world class education system will require more resources, but these are not likely to be forthcoming unless better use is made of the resources already devoted to education.

It is therefore very important to make fundamental changes in the incentives for students, teachers, and administrators in American education systems. It is axiomatic that we will get the outcomes we reward. Unfortunately, incentives frequently are counterproductive--as when schools lose resources if they become more productive or when incentives actually reward schools that encourage dropouts. A fundamental principle of productivity-improving processes is that participants should not lose if they help improve productivity.

We need to be especially concerned about the status and incentives for teachers. As noted by the Carnegie Task Force on Teaching's report, A Nation Prepared, we must make sweeping improvements in the education, standards for entry, compensation, working conditions, responsibility, and status of teachers.

In particular, the Task Force recommended:

1. The establishment of high standards for teachers comparable to those of other professions.

2. A new national board with a majority of outstanding teachers to set standards and prepare a national certification examination for teachers comparable to the bar and other professional exams. Not all teachers will be certified, but those who do would have superior status and compensation.
3. Broad liberal arts training for teachers instead of the present undergraduate degree in education. Before becoming teachers, candidates must complete a graduate degree and serve an internship and residency program.
4. Schools should move away from the lecture method as the dominant form of instruction. Students could be more responsible for teaching each other and more effective use should be made of video cassettes, computers, and other technology. Teachers would be freed to coach students in thinking, writing, expressing, persuading--important skills now neglected.
5. New forms of school management with more responsibility by the certified teachers.

Certified teachers would be paid 50 percent to 100 percent more than teachers are now paid. While professional working conditions are very important, higher pay is necessary if we are to attract and retain more qualified teachers. In 1985, for example, those college students who indicated their intention to major in education had much lower SAT scores than all college-bound seniors: they were about 40 points lower in math and over 25 points lower in verbal skills. Moreover, in 1985 average annual salaries for teachers and other professions were:

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|---|---|
| Lawyers | $51,400 |
| Engineers | 39,500 |
| Chemists | 39,200 |
| Systems analysts | 36,500 |
| Accountants | 31,200 |
| Buyers | 28,900 |
| Mail carriers | 24,232 |
| Teachers | 23,500 |

| | |
|---|---|
| Plumbers | 22,412 |
| Secretaries | 19,534 |

We must stress, in addition, the critical threat to the quality of education if we fail to upgrade the status of teachers. We currently have many good teachers in our schools, partly because discrimination has barred women and minorities from other fields. As discriminatory barriers are lowered, however, talented women and minorities have abandoned teaching. Unless we make radical changes in the system, the rapid turnover of teachers in the next decade and the lack of incentives for talented people to enter teaching could cause a deterioration of our already inadequate system. Improving the quality of teachers is important because students will reflect the kinds of teachers they have. We are more likely to get highly motivated, well educated students who give high priority to learning if we have teachers with those characteristics.

Since education must be viewed as a system, it is important to make fundamental changes. Once institutionalized, the mutually reinforcing components of systems erect formidable barriers to change. Systems produce professionals who tend to exhibit defensiveness, complacency, and even hubris. The systems' actors likewise develop value systems and incentives that perpetuate present outcomes, whether or not those outcomes are the ones those who support the system wish it to achieve. Institutionalized systems therefore resist and nullify piecemeal, incremental changes. It follows that the only changes that are likely to be effective are those that fundamentally alter the system. Changes in the education system also require enlisting the support of those within the system who have a strong interest in reforming it. Change strategies must, in addition, reconcile the legitimate interests of the education system with the country's need for a world class education system. Clearly, the best place to start transforming the education system is to make dramatic changes in the most important agent in that system--teachers. As the Carnegie Task Force on Teaching emphasized, the key to success in creating a really first class education system is "a profession of well-educated teachers prepared to assume new powers and responsibilities to redesign schools for the future."

## The Quality of the American Work Force

Although there is little doubt about its importance for economic activity, it is very difficult to assess the quality of a work force. The data simply are not available. Of course, we know something about the levels of schooling, and on this score the United States ranks very high among countries. We also know that there have been dramatic improvements in the proportion of Americans graduating from high school (over 50 percent in 1950 and over 75 percent now) and college (about 20 percent in 1950 and about 50 percent now).

But *schooling* is not necessarily a good measure of *education* or *achievement*. A common mistake is to confuse schooling with education and therefore to misread the impact of education or *competencies* on income, employment and other outcomes. Some skeptics about the efficacy of *education* argue that *schooling* has had little effect. However, when Gordon Berlin and Andrew Sum ("American Standards of Living, Family Welfare and the Basic Skills Crisis," speech to Conference of School and Employment and Training Officials, December 1986) relate competencies measured by a variety of standardized tests, they find considerable variations by race, type of community, and the education of parents, and find uniformly positive relations between basic skills and economic outcomes. With respect to race, for example, NAEP reading scores show the black-white gaps to have narrowed between 1971 and 1984, but to remain very large--in 1984, black 17-year-olds had about the same reading scores as white 13-year-olds; Hispanic 17-year-olds had only slightly higher scores--the white 13-year-olds' average score was 363.4; black and Hispanic 17-year-olds' scores were 263.5 and 268.7 respectively. When annual earnings for 1978-81 were related to achievement scores on the Armed Forces Qualification Test (AFQT), there were close associations between skill levels and earnings for males and females regardless of whether they were high school graduates or dropouts--though graduates consistently earned more than dropouts at every skill level. For males, dropouts scoring in the highest skill quintile earned more than graduates who scored in the lowest three quintiles.

Educational equity must be high on our policy agenda, but the achievement of this objective will require some fundamental changes in attitude. Surprisingly for a democratic country, international comparisons have found that Americans attribute achievement to innate ability while the Japanese attribute it to hard work--a much more democratic concept. If we believe achievement is due to innate ability, we are likely to "track" students and to give too little attention to making educational services available and requiring and motivating students to work hard. The evidence is very strong that hard work and time spent concentrating on or studying a subject--rather than innate ability--are mainly responsible for educational achievement.

Another way to gauge the quality of the American work force is to examine the results of various standardized tests. The decline in Scholastic Aptitude Test verbal and quantitative scores beginning in 1963 has been a source of some concern. There are, however, two problems with SAT test scores. One, we do not know for sure what caused them to decline. Secondly, while these scores apparently are good predictors of performance at the next level of education, they are not very good predictors of performance in the work force.

International comparisons also have found that American students perform poorly relative to those form other countries, especially on math and science. And data from the Second International Science study, released in 1987, comparing U.S. and foreign students, concluded from assessments in 1970, 1983-84, and 1986 that the science achievement of American students had improved little over the past two decades and still lags far behind that of students in other countries. Some observers attribute these differences to the much higher school enrollments at the high school level than in other countries. While there is something to this argument, it is only a partial explanation because American students lag behind most foreign students in developed countries at younger ages (though the gaps are smaller), where enrollment percentages are roughly comparable. Moreover, Japanese students perform much better than American though we have roughly comparable enrollment rates. The main differences probably are due to several factors. (1) Japanese society attaches much higher value to education, as demonstrated by the relative pay of teachers and parents' attention to the education of their children. (2) Japanese students spend much more time in school In fact, the U.S. has shorter classroom time than any major industrial country. (3) The Japanese spend more time on math and science subjects.

While international comparisons on achievement scores tell us something about differences in schooling, they do not provide very definitive information about the quality of the work force. This is because much learning takes place outside of school, especially on the job. Moreover, there is mounting evidence that achievement in school depends heavily on such factors as health, parents' education, and early childhood development--all of which receive much more attention in most other industrialized countries than they do in the United States. In addition, corporate education systems are becoming almost as important, in terms of expenditures and students enrolled, as all of our four-year colleges and universities. Because of all of these non-schooling related factors, we do not have very good international comparisons of the actual quality of work forces. The evidence that we do have suggests that in the U.S. those with the most formal education also get the best on-the-job learning experiences. The evidence also suggests that minorities, especially black males, are much less likely than white males either to have high educational attainment or for those educational attainments to gain them entre to the good on-the-job learning opportunities. (See Lee A Lillard and Hong W. Ton, Private Sector Training, Santa Monica, CA: The Rand Corporation, March 1986.)

Clearly, however, the well documented deficiencies of the American education system in providing students who score highly on international standardized tests, and the relatively high functional illiteracy and low health status rates of many Americans do not prove that our work force is lower quality than those of other countries. As noted, much learning takes place outside schools. There is, in particular, a synergistic relationship between the use of technology and education. Knowledge and skills condition the extent to which technology can be disseminated in a country, and the use of technology facilitates learning and the acquisition of technological skills. The United States is the world's most technologically advanced country. American workers therefore have learned a lot outside of schools. Productivity is probably the best measure of the overall quality of a work force. And, despite our poor performance in productivity growth since the 1960s, the U.S. still has the highest average level of productivity of any country. Our problem is the need to improve the quality of our work force in order to maintain or improve our living standards, not that our work force is inferior across the board. We also have problems because of the great disparities in human capital, productivity, and living standards within the United States.

## Conclusions

The evidence with respect to the quality of the work force and education suggest the following conclusions.

1. U.S. companies are losing their competitive position in the world economy. Part of the reason for this--the growth of other economies--is both inevitable and desirable. However, we should be very concerned about that part of our loss of competitiveness caused by our own weaknesses and inflexibilities. American policies have created serious competitive disadvantages for American companies. Moreover, many American management systems are not world class. We have many well managed companies, but we have no clear advantage in this area. Moreover, while our relative wages are lower than some European countries we are still a high wage country. The only area where the U.S. has a clear competitive advantage is technology, but this advantage is diminishing and has actually disappeared in some areas. If we want to remain a relatively high wage country, we must improve our competitiveness by giving greater attention to productivity, flexibility, efficiency, and quality. We also must be technological innovators and users. If we do not maintain our technological lead and improve our management systems and national policies, we will compete mainly according to wages, which implies a continued decline in real wages and family incomes.
2. Competitiveness implies, above all, much greater attention to education and learning systems at every level.
3. Because of demographic changes, competitiveness requirements, and the necessities of a democratic society, educational equity must receive high national priority.
4. Education is mainly a state and local government function, but population quality is a national responsibility. The federal government should therefore:
    a. Elevate the importance of intellectual activity on the national policy agenda. State and local governments cannot do this. Federal officials should help dispel dangerous myths about education, especially that (a) education

expenditures are costs and not investments and (b) education achievement is due mainly to innate ability.

b. Fund basic research on the learning process as well as education systems in the U.S. and abroad.

c. Act as an information clearinghouse and source of reliable data.

d. Develop resources and incentives to improve learning systems.

e. Give special attention to educational equity by creating the means for the disadvantaged to develop themselves and for poor school districts to acquire adequate resources.

f. Above all, the federal government could strengthen democratic decision making by doing more to apply sound reasoning to its own pronouncements and policies, which too often are ideologically inspired and tend to trivialize issues. America's proudest achievements have been based on creative pragmatism, not ideology. The federal government could set an example by applying high intellectual standards to its own policies.

National policies should make it clear, moreover, that maintaining and strengthening our position in the global economy will require major increases in human capital investments. People have always been the main source of productivity improvements and are likely to be even more important in an increasingly competitive international environment. American standards of living and national power clearly will not be supported by work that can be performed anywhere in the world by unskilled workers. And the costs of trying to disengage from the global economy would be too great, even if we could do it. Finally, we also recognize the danger of *not* taking advantage of present opportunities to make these fundamental changes. If we fail, the rising tide of mediocrity or worse will not just be in our schools, but in the quality of our lives and those of our children. We could very well lose our ability to project the ideals of a free and democratic society in a dangerous and uncertain world.

Representative **Scheuer**. Well, thank you, Secretary Marshall and the two Governors for a most stimulating session. I didn't deliver a lengthy opening statement and I am not going to. I am just going to say one thing, that in reference to the extraordinary economic events of the last 48 hours—the stock market crash—I can't think of anything that is more critical to addressing the problem of getting our economic house in order than the subject we are addressing this morning.

All of us have read in the paper in the last 2 or 3 days and have seen on the television the need to get our budget deficit under control, to get our trade deficit under control, to get our economy under control. There is nothing more critical to all of the above, in terms of making this a vibrant economy, able to produce the kind of standard of living we want, maintain incomes, enhance incomes, compete successfully in global commerce than having a trained, effective work force. So I think you have all given us extremely pungent and stimulating testimony at a time in our history when it is totally relevant and critically needed. And I thank you very much.

We have with us today the distinguished chairman of the Education and Labor Committee, Congressman Gus Hawkins of California. I am glad that he picked today to come. I hope he comes to other sessions, but I can't help remembering back to 1965, when the Education and Labor Committee, of which I was then a very, very junior member, considered and passed the Poverty Program. A lot has happened since then. We have learned a lot. Secretary Marshall, you mentioned the Job Corps.

In those days, I was very involved—very happily and proudly so—in this marvelous program, the Poverty Program, and the only tragedy, in my mind, is that we treat our successes the way we treat our failures. We don't examine which programs succeed and then really pour resources into them. Unfortunately, we treat them the way we treat our failures, which is sad. Certainly, the Job Corps that you referred to is one of the gems.

The Headstart Program, you talked about that too. I cut my eyeteeth on these programs as a freshman congressman in 1965, under Gus Hawkins' leadership, and it has left a real mark on me.

We designed these hearings in close consultation with Congressman Hawkins. If anything is going to happen, legislatively, it is only because it occurs under his leadership from the Education and Labor Committee. The Joint Economic Committee is not a legislative committee. But we have one thing that Congressman Hawkins and his colleagues on the Education Committee don't have, and that is time. Because we don't have that incredibly full platter that Chairman Hawkins has, we do have the time to contemplate and to think and to have the benefit of inviting folks like you in to stimulate us and provoke us, to hold our hands and lead us into a new and better America.

So I am delighted that Congressman Hawkins is here today. As I said, if anything flows from these hearings, it is only because of his leadership and his support. I look forward to working under him in, hopefully, bringing to reality some of the ideas that we have heard.

So it is a great honor and privilege for me to recognize Congressman Gus Hawkins.

Representative **Hawkins**. Well, I thank you, Jim. I will resist the temptation to reminisce; however, I do appreciate what this committee is doing. As you indicated, many times, we don't have sufficient time. I have looked at the record. I have looked at the witnesses you have accumulated, and I think you have done an excellent job. You have brought together, I think, the best experts possible in the field, and this has been very helpful to me and to my committee.

It isn't duplication; it is conserving the time and doing the best with it, to obtain the best information possible, and I think this morning is no exception.

It has been a real privilege of mine to be with you.

I am very much impressed with what has been said. It is difficult sometime to talk when you can't argue with someone. So much truth has been said that it really documents, I think, what we have learned over a long period of time. It is true, we have a lot of programs. We do know how to efficiently develop learning systems, and we do have the capability, it seems to me, as well expressed here this morning. But perhaps you said it best, when you said that we don't seem to be headed in the right direction, and that worries me. I am not optimistic, as some of you are. I am a little pessimistic, as a matter of fact, because we are not learning fast enough. We are not applying what we already know.

We have developed some excellent programs with the assistance of some of you, and yet we are turning our back on them. The 1983 report of the Commission on Excellence in Education of this administration—I thought it was a very excellent report. I think it echoed many of the recommendations. As a matter of fact, Jim, your quote this morning about international comparison of students came out of that report. The report indicated that even our best students were not learning as well as students in some of the other countries.

Well, if that is so, then, obviously, one-third of the students, the disadvantaged or those at-risk, are way down the scale, and these are the ones we have got to worry about among the others as well.

The thing that concerns me, and I am trying to reach that point and get a response from the witnesses is that, despite what you have said, despite what the National Commission on Excellence in Education said way back in 1983, defining a crisis in education developing in the country, despite what the National Assessment of Educational Progress is saying today and has been saying, and despite what the Governors have done—I read with great interest what they said down at Hilton Head in that conference, despite all this, we are doing a lousy job of implementing what is being said, and what all this, the Committee for Economic Development just said 1 month ago in a report which they issued, that they strongly recommended support for early childhood education, including expansion of Headstart and compensatory education. We have to separate the political rhetoric on the one hand from economic realities on the other.

And the reason we are falling behind is that we are not really executing the policies as well as we should, even if we have any such policies.

It is obvious that we are saying all of this within the context of a mood in the country to cut back on spending and education, not considering it anywhere investing in education.

If Headstart, for example, and I think everybody agrees on this, saves $3 or $4 for every dollar invested, then it is obvious that investing only enough to provide benefits for 18 percent of the target population means that most of the children in this country are not given the benefit of a program that we say will save $3 or $4 for every $1 invested. That is a tremendous waste.

The same could be said of compensatory education, and so despite the fact that we are saying this is the best way to balance the budget, it is the best way to prevent the operation of the criminal system so that it is expanding, and it is the best way to become competitive, we are going to cut back on the very programs that you recommend this morning and what you have testified should be done.

So you will get less help in the States from the Federal Government, as a result of the cutbacks that will take place.

A month ago, we passed out of my committee, H.R. 5, as you know, Jim, as a strong support of that program, which incorporated precisely the recommendations which you have made to us this morning, to try to advance students along the grade level from one grade to the other.

Last year, we passed a bill, which is now the law, to help kids go to college, and yet, we are telling the kids, yeah, go ahead and help yourself. Be the best that you can and go to college, but you do it on your own. And so we have cut back on student aid.

So we can come in here and discuss and promulgate these ideas. Kids should go to college. We know damn good and well, few will go to college, because we are cutting back on the resources.

We are talking about the virtue of early childhood education, but we aren't going to do it. We are going to have the Gramm-Rudman cutbacks take place this year, and nobody is going to raise a voice probably strongly against reaching some magical solution. The States have increased their expenditures in the field of education, most of them. My State has fallen behind. We once were two or three. We prided ourselves on education. We competed with Texas and other States in the Southwest to get a lot of Federal contracts, but now we are 17th in the expenditures. So we really have fallen behind.

So this is going to go on.

I suppose what I would like to see if we can get some more specific understanding, what is, and this involves us on this side of the table, what is the responsibility of the Federal Government on all of this? While the States, obviously have the major responsibility in the field of education, some of the States can't do as well as Rhode Island, unfortunately, Governor. Some aren't doing as well. And many—equity is overlooked. Most of the reports which have dealt with educational reform are not going to help these unfortunate, at-risk kids, because they are going to be overlooked, and the resources are not equal among our local educational agencies across the country.

So the very kids that we talk about being in the majority in the work force of the future are not going to read as well. It is the first generation that is falling behind their grandparents in getting educational opportunities. The Federal Government has cut back since 1980 on educational expenditures. In 1981, we just, by one stroke, dropped several hundred thousand kids who were in compensatory education, and we have done nothing to recover that lost ground.

I don't know. The public is miseducated as to the importance of this, I think. They listen to their national officials telling us how great we are. We have a 19-month array of so-called "recovery" at around 2½ percent. We used to say when we were talking about full employment that we needed, certainly, 4½ percent to even keep up normally, and in a recovery we needed a lot more than that. And now they are boasting about 2½ percent.

Well, you can't get blood out of a turnip, and you are not going to get a vigorous economy at that rate. And that is why I see a certain amount of pessimism in what we are now doing, unless we change—I guess the optimistic thing is—unless we change, and the fact that we are capable of changing seems to be the only optimistic thing we can see.

What I would like to do, if possible, Jim, maybe I have taken too long on my—it's not just an opening statement, a statement that intervenes, but I would like to know what you think we can do at this level, because I think you are doing a pretty good job at the local level, but why is it that the public is so miseducated that their representatives here in Congress and their representative in the White House can boast about what we are now doing at the same time that we are cutting back on employment and training and education.

Should we be doing more? Should we be, let us say, doing more to get teachers trained? Should we be doing more to see that more equity is provided in educational programs, so that if the states are not able to undertake the responsibility of educating those who are not in need of extra services, more than anyone else, is there anything that you suggest that we can do at this level, in order to assume Federal responsibility?

Mr. MARSHALL. Well, I would be glad to start that. I believe that one of our learning systems is politics, and we hope, anyway, that we can cause the level of the political debate—you know, that is one of my recommendations, is that what we ought to do, if we want to elevate the importance of intellectual activity in the country is start here and try to get better responses.

I would say, though, several things about that.

One, I believe that people are way ahead of the systems on this. I think the people are way out in front of a lot of the politicians who view these things mainly as costs and not as investments, and around the country and the States, we have been able to do the kinds of things we heard about here in Arkansas and in Rhode Island. I think that you have got a lot of creative pragmatism going on in the States, and you got a lot of ideology going on in Washington. And my view is, that the thing that made this country great was not ideology, it was creative pragmatism, as we saw problems and we dealt with them. And we created an education system at an early time that fit the needs of that time, but we no longer need that.

I think what we have to do is elevate the importance of the debate. And it seems to me that this kind of ideological approach to things will cause a lot of trouble in failure just to look at the evidence. You know, this evidence is overwhelming.

If you look at the history of civilizations, you will find that there are usually two things that they get heavily involved in just before they go down, whether you are talking about ancient China or Great Britain or almost any other country, as we are perilously close right now at having both of them.

One is that you are driven by a great deal of ideological activity rooted in the realities of the past and are not flexible enough to keep your systems and institutions and policies responsive to the world as it evolves.

The second thing is hubris. See, most of these countries go down because of this kind of overpowering arrogance, that we don't have any problems, that we are doing—every day, in every way better and better, and we know how to do it, and the way we are doing it is all right.

Now, I think that is very dangerous. It means you don't reexamine what you are doing, but I think the answer to your question, Mr. Chairman, is we have got to get the debate out there. And I am encouraged by polling information which suggests that the people are ready—and in your State, I just saw a thing, where they are going to declare a dividend or something. And the people said, use the money to improve the education system. Don't give it back to us.

Well, that strikes me as——

Representative SCHEUER. Mr. Secretary, can I just footnote what you are saying, and then I hope that you will continue.

Lou Harris, the pollster, testified before us several weeks ago, and he testified that in his polls he asked a large sample group, if they would be willing to pay a 2-percent tax on their earnings to improve our education system. This would mean not doing business as it has been done in the past. It means developing something new and creative and targeted to improve the education and training of our school children.

An overwhelming majority of the people said they would be willing to pay a 2-percent tax for something new and different in the education system that really would work, that really would promote change and improvement.

Mr. MARSHALL. Yes, Lou's polling data that I had in mind, that is compatible, but that is compatible with a lot of other polling data, and I think that the real question is, How do we translate that into the political arena?

Representative HAWKINS. Well, how many political leaders would say, I'll increase your taxes, if it goes into education? How many would be willing to do that?

Mr. MARSHALL. Some have.

Governor CLINTON. Let me make a comment. Almost every State in the country now, over 40, have implemented large chunks to all of the recommendations of the "Nation at Risk" report. And I think that is very hopeful. Some have been fortunate. The New England States have had low unemployment rates and high revenue growth rates. A lot of others have had to raise taxes. In our

State, in the teeth of a terrible recession which has lasted for a very long time, we raised the sales tax for the first time in 26 years, and then 85 percent of the school districts, after that, came in and raised their local property taxes, a lot of them twice, to support the idea of investment.

Now the real issue, I think, is, can you take that attitude, that commitment, that understanding and throw it on to the national political scene. And I think the answer is, you can, you can take advantage of the polling findings that Lou Harris so graphically demonstrated in his book, if you have a clear sense of where you are going, so the people think, "I am paying this specific tax for this specific investment." Otherwise, it is better for you to reduce the deficit, because that is a terrible part of our problem and a part of what happened on Wall Street, and the leveraged debt that they have is another big problem.

But the American people do regard education as an investment. You won't have to spend money on education with deficit spending, the way we have expanded the defense budget or with deficit financing the way the Wall Street boom has been expanded in the last few years. You can actually tax people to pay for it as an investment, but only if there is a clear understanding that you are likely to get the same sort of payoff from those investments that the States were able to project when they raised taxes for education, and I think that is the task that you face.

Secretary Marshall alluded to some of the things we have to face. Access, equity, educational resources, to see what works for tomorrow. Targeted specific, clear commitments, and if you can show people that you are going to raise taxes in this amount and in this way for those projects, and that is where the money will go, I believe it would be terrifically popular.

I appeared not very long ago before the executive board of the United Way, chaired by James Robinson, head of American Express. I was able to warm up the National Alliance of Business crowd before President Reagan spoke to them a couple of weeks ago. They didn't want to hear me, exactly. It was just the message. They are interested in welfare reform, investment in education, recovering America's at-risk population. These are business people.

So I think that, Congressmen, you have reason to be pessimistic, but you have reason to be optimistic too. If this hearing can give—these sets of hearings can give some sense of clear, sharpened opportunity at the Federal level, and then tie specific revenue increases into those opportunities. I think you will find a very willing populace. I think they are way, way ahead of the folks. I agree with Secretary Marshall about that.

Representative SCHEUER. Yes, Governor.

Governor DIPRETE. I think Congressman Hawkins is absolutely right on target when he says that study reports, expert witnesses, all kinds of testimony are all well and good, but they are really not good, unless the suggestions are implemented. And I think that is our job, really, at the State and local level, when it comes to education, and I think—I like that term "creative pragmatism." I think we have got to get away from ideology, whether it is education or practically everything else I think we talk about in this country and find out what works, what works best and after careful consideration, just do it. Move to do it, because the best ideas absolutely really serve no purpose, if they just lie on the shelf.

Now we marketed—I mentioned my state of the State speech. We proclaimed that 1987 would be the year of education. We talked about investment and opportunity. We kept using those terms, investment and opportunity. Breaking down barriers.

And sometime after that, just to see whether—you know, we thought the public supported this, but to try document it, we did our own professional polling by a professional firm in the Rhode Island area, and they were posed—the public was posed with some very specific questions, and one was: "In your opinion, is it more important to hold down government spending or to spend more money on education?" They had to make a clear distinction, clear decision.

Seventy percent came down on the side of spending more money for education, and I think that tells a tremendous story. Cut clear cross party lines, demographics, it was north, south, east and west, people said they would spend more money. They all want accountability, not just throw the money out there and, you know, let's just depend on luck. We can't do that. The public, I think, and Governors have to have properly focused programs, specific programs, be it the K through grade 3 remedial, early intervention, Headstart, whatever, and the public will support it.

Representative HAWKINS. If you increase, let's say, at the State level, but at the same time the Federal Government reduces its share, which it has done since 1981, so that we are right back where we were in 1981, in other words, you have increased the share at the State and local levels, but the Federal Government has cut back, so that the amount that we are now spending is approximately the same, or do you think that that is reasonable to expect you to assume what the Federal Government reduces the deficit, that gap between the Federal expenditure, or would you favor increased Federal expenditures, particularly in those programs such as you mentioned?

Governor DIPRETE. I think the Federal Government has a greater responsibility in those areas than it has demonstrated in recent years, yes. Let's say, fortunately, it is a good time to be Governor in the northeastern part of the country. The economy is very good. We have had a revenue surplus equal to about 10 percent of our budget last year. It is not always going to be this good. Who knows when the story will go the other way, and we know that many of our colleagues in other parts of the country don't have the economy, and maybe 5 years or 10 years from now, they will be in good shape, and we will have our problems. Maybe it will be 2 years, I don't know.

But to answer your question, I think the Federal Government has left us somewhat in a vacuum, and I feel there is a greater responsibility that Washington has in this area.

Representative HAWKINS. Thank you.

Representative SCHEUER. Well, this has all been very productive. In terms of educating and getting minorities into the mainstream, I can't think of anything that is likely to succeed more than the two programs that the Federal Government supported that have been spectacular successes.

We did have a program called Headstart. I was a beneficiary of a Headstart Program two-thirds of a century ago. We didn't call it Headstart, we called it nursery school then. But that was an enriched preschool education experience. And middle-class people have been giving their kids the benefit of a Headstart type of experience for a century.

As I said, my parents did it for me in the early 1920's. So there is nothing very new and different about this, except for the fact that in 1965, under Congressman Hawkins' leadership, Congress did pass an enriched nursery school type of program for the poor. And it was a fabulous success. As a matter of fact, to preserve the benefits of it, after a year or two, when we realized that the kids needed continued enrichment when they got to school, we passed a follow-up program called Follow Through. Now, you know, we weren't doing anything very creative or new or different. This had been time tested by middle-class parents for middle-class kids for a century, and here the Federal Government provided this program for educationally disadvantaged kids.

But was it replicated around the country? No. It disappeared without a trace, tragically. Perhaps a few innovative Governors like you two did extend the education system down to the fourth or the third year or hopefully the second year of life, but it has been done all too little.

Now the second great innovative education program, designed for education equity, was an experimental program in which we gave 17 million Americans the right to proceed as far as their ability and drive would take them in our education system, right from high school to college, to postgraduate and postdoctoral work. And that was called the GI bill of rights. I went to Columbia Law School on the GI bill of rights. It paid all tuition, all books, all expenses, and I think $75 a month, which is equivalent—Economics Professor Marshall, equivalent to what $200 or $300 a month today, maybe a little bit more.

Now, those kids paid back to the Federal Government more than 2½ times expenses of their education, through the increased taxes that they have paid, as the result of that increased education.

And that was a spectacular, not expenditure, but as Economics Professor Marshall has told us, a spectacular investment.

And why those characters down at the OMB can't understand that this is an investment [laughter].

I was not going to politicize this hearing, I swear I wasn't [laughter], Professor Marshall, until you injected that little bit of acerbity. But it is true. Why can't they perceive this as an investment? All they have to do is look at the record, as Al Smith said, and they will see it is an investment.

That GI bill was a golden nugget that we finally developed.

You might have thought it couldn't be true. You give people a lot of additional education and job training, and it is going to produce a better life for them—better jobs, better wages, and also a high level of taxes. And this program has paid for itself almost three times over in the 40 years that has passed since then.

Why can't those people down at 1600 Pennsylvania Avenue understand that?

I do have a question on education equity. I forget which one of you it was—maybe it was Professor Marshall who talked about the tracking system.

Mr. **Marshall**. Yes.

Representative **Scheuer**. You had some reservations about the tracking system.

Professor Marshall, let me ask you this question:

As you know, we have several needs in our country. One is for education equity; that is, to get all of our kids involved. Maybe it is better for low-achieving children to have the stimulus of high-achieving children in their classroom. But, we also have, perhaps, a different goal, and to some extent, a competing goal, of really turning on those IGCs, as we call them, the intellectually gifted. Those are the kids who are going to be making breakthrough medical, scientific and technological discoveries, who are going to man the key positions in the great American enterprises.

We don't want to hold them back. We don't want to have them feel depressed and disinterested, because the teacher is spending one-half or two-thirds of his or her time helping to bring lower achieving kids into the mainstream.

How do we solve that conundrum of giving the benefit of a variegated educational experience to the lower achieving kids by not segregating them, but also of not holding back the kids who are intellectually gifted?

Mr. **Marshall**. Well, I think that can be done. I think in some places it is being done. I don't believe that there is a conflict between excellence and equity. I think you have to have equity in order to get excellence.

Now, that can be in the Job Corps too, is one of the ways to see how a model of how that might be done. There are two reasons why I am concerned about it. One is that the tracking is a tracking that is a self-fulfilling prophecy. The assumption that you see a black kid, a Hispanic kid, a poor white kid, that kid can't learn.

Well, you dump them into a lousy vocational education system, say. And you pass them along without—now the evidence suggests that the range of human intelligence is not that great, if people are reasonably healthy, by the time they get to school, and that anybody can be gifted.

People learn in different ways. And what I think we really need to guard against is the tracking where you artificially discriminate against people because of preconceived notions about whether they are gifted or not. And there have been experiments to demonstrate that that is, in fact, what the schools frequently do.

Now the second point I would make is that you can—the teacher, using the modern teaching technology, the self-paced competency-based teaching systems—and it is also what you do in the Job Corps—have people with very different levels of attainment in the same class, and using—a teacher can spend a lot of time with those who need help or a lot of time with those who are very gifted, and much of what is done that the teachers now do, they ought not to be doing.

You know, they are disciplining and filling out papers. Well, with modern technology, you shouldn't have to shuffle a whole lot of papers. You know, all the rest of that can be done by the technology itself.

In the Job Corps, Camp Gary, TX, which was the first of those, they have graduation every Friday, and they have people with all kinds of different levels in the same class. And I think your premise is absolutely sound, that if you need to have the youngsters from different backgrounds, different experiences, different learning capabilities, in the same classroom, because if you put—think of what you do, if you assume that some people are slow learners or can't learn, and you segregate them on the basis of that assumption.

Now that doesn't mean if you really do get people with learning disabilities, that you ought not to pay attention to those learning disabilities. That is a different matter.

What I am worried about is the kind of automatic tracking that we say we don't do in a democratic society. We condemn the Europeans because they make the decision early about who is going to go through an academic program and who is going to go through a vocational program and go to work, but we do it earlier. We do it in first and second grade, and that is worse than waiting until everybody's gone through the same kind of——

Representative HAWKINS. Well, would that become a problem, if you did what we should do, that is, begin at the prenatal stage to make sure that, first of all, babies are born with the correct weight, without limitation, and if we didn't impose problems, barriers against certain kids, from the very beginning, perhaps they would be among the gifted and not those who drop out. So that, wouldn't the problem pretty much be reduced, so that if you started early enough and made sure that you kept a continuity in educational programs all the way through and not just have a small number being helped in the early grades and the rest of them not being helped?

Mr. MARSHALL. I believe that. I think that a lot of learning problems are health problems. A lot of learning problems——

Representative HAWKINS. The kid in prison might have ended up being the gifted one.

Mr. MARSHALL. Poverty itself causes learning problems. And the other thing that I would add to that, what we already know about, the WIC, the Headstarts, the things that we know how to do, is that the evidence is pretty strong that educationally disadvantaged youngsters lose a lot in the summers, relative to middle-class people.

Representative HAWKINS. Lose a lot?

Mr. MARSHALL. They slip back in the summertime. You know, the summer is long, and if you look at the—track it by levels of income, that high-income kids, you know, who have these advantages you talked about, middle-class people do things that are educational with their children in the summertime. Maybe they go off to camp or do some other things. Poor kids don't have that option, and therefore, they forget a lot, and they slip back and the curves fall back. If you test them, say, at the end of the school year and at the beginning of the next school year and look at those curves, they will fall back, whereas the high income people haven't.

Representative HAWKINS. What they do in the summer, they get on the streets and raise hell.

Mr. MARSHALL. That's right. You don't learn a lot that's going to help you. You learn a lot in art. One of the best learning systems we've got in the country is in prisons. They learn an awful lot in prison, but it is not going to be things that help them a lot when they get out into the world, unless you do what Governor Clinton is talking about. That is, unless you have a program that is geared to trying to reduce recidivism for those people.

But I think we need to look at it from prebirth all the way through, as a system, with different kinds of intervention.

Representative SCHEUER. Mr. Secretary, what have we learned from the Job Corps? You are apparently an enthusiastic supporter of that whole concept.

Tell us, specifically, what we have learned so that we can craft a program to help both industry and the school system to provide the benefits——

Mr. MARSHALL. I think the first thing that we have learned is that it is a very good investment. It has been studied. The second thing we have learned, we gave the Job Corps long enough to solve its problems and work out some early mistakes. We don't do that with many of these human resource development programs. We want it to work within a year, and if it doesn't, then we say it fails.

The third thing we have done is to learn that the youngsters learn a lot from each other, and therefore, it is terribly important to get seriously disadvantaged people off the street, out of that peer pressure that they are in, because there is a system that you go through, if you are unable to join the mainstream, there is a psychological process that causes you to have values that are likely to keep you out forever.

That is, the best thing to do is to work in the street.

Representative SCHEUER. We are going to have a day of hearing on exactly that subject, November 10.

Mr. MARSHALL. Well, you ought to look at the Job Corps.

Representative SCHEUER. We will try to send you the transcript of the hearing.

Mr. MARSHALL. Well, you ought to look—because what the Job Corps shows is that you can take seriously disadvantaged young people out of that peer pressure setting that they are in, deal comprehensively with their problems, and those problems are not just economic. They tend, frequently, to be emotional. They have physical problems, and you can deal with those, but I think one of the most important things that they do is create an attitude in the Job Corps that is what I call the "last change syndrome." It is kind of like the GI bill was for a lot of us. It is a golden opportunity to break out of your system, so that if you have had trouble with the law, as many of the youngsters coming in the Job Corps, trouble in school.

We found that almost 20 percent of the high school graduates coming into the Job Corps were illiterate. Well, what did the schools do for those folks? Not a lot. But you put them into that kind of "last chance" situation, where they have a lot of self-government. They elect their leaders, the whole new attitude is that is your last chance, and you better not blow it. And that is what they tell each other.

And that has a lot more impact that somebody from a different culture saying to those youngsters, we think you ought to be like us, which is the wrong thing, because they are not going to want to do that.

Representative **Hawkins**. Would you suggest a program prior to that, however. You are talking about a "last chance" situation. What about a program at the high school level to encourage young people to stay in school——

Mr. **Marshall**. We had that.

Representative **Hawkins** [continuing]. Or to go back. I was asking you to say that. To go back to school, if they have dropped out, on the basis that they will be provided employment as an alternative to, let's say, running afoul of the law and getting into trouble?

Mr. **Marshall**. I think it is a very good program. We had the Youth Entitlement Program——

Representative **Hawkins**. Do we have any such program ready to go?

Mr. **Marshall**. No, we abolished that, and I think that was——

Representative **Hawkins**. Would you say that when we had one that it was successful?

Mr. **Marshall**. It has been evaluated. The evaluation found that you did a better job of keeping people in school than you did getting the dropouts to return to school.

Representative **Hawkins**. You are saying it was so successful that we eliminated it?

Mr. **Marshall**. Well, that used to be my feeling, Mr. Chairman, that frequently when something succeeded, you were very sure they were going to eliminate that one. So, and I don't know—it seems to me our standard ought to be, we ought to take these things that, as the lawyers say, the preponderance of evidence suggest work, and we ought to expand those programs as fast as we can. That is the reason that when we came in the Carter administration, we took the Job Corps and doubled it. Why doubling? Because we figured out just about as fast you could do it, because you've got an administrative problem, and my advice to them is to, at the end of that time, double it again.

Now the Job Corps is useful for a particular set of young people. The people who are in school, I think you need to be preventive about that. And we have learned some more since we did the Youth Entitlement Program. We have learned that some things we tried didn't work very well. We ought to learn from that lesson. But I believe now that it would not be very difficult for us to build on what we have learned and to prevent dropouts and to use a jobs program, jobs and training problem, as a way to do it.

In fact, I think the best school systems of the future are likely to be those that break down the barriers between the schools and the world anyway.

Governor **Clinton**. Mr. Chairman, if I might suggest, you might want to have someone from the Boston Chamber of Commerce come down and talk to you about what they have tried to do with the public school system to basically create a private sector version of that public program. They spent about $10 million there in the last few years to endow certain programs to deal with at-risk kids, and they guarantee summer jobs and ultimately a job to every child who will stay in school. They had a 48-percent dropout in the Boston school system when they started working on this problem——

Representative HAWKINS. Is that the Boston Compact?

Governor CLINTON. Yes. About 4 years ago. And you will see, I think, if you bring them in here, both what the possibilities and the limitations of the problem are, but those people deserve a lot of credit for the effort that they have made, and I think that you will get some private sector people saying, "Hey, if you tell these kids there is going to be a job at the end of the rainbow," and you give them something to do in the summertime—to refer to what Ray said—you can really make a difference. And I would think, make a contribution——

Representative SCHEUER. Doesn't that tie in pretty well with your concept of industrial coordinators?

Governor CLINTON. Basically, if you look at what happens in State government and education, all these lines between the public and private sector that relate to developing the capacities of people to be fully functioning citizens are blurring heavily. I mean, we just had—and I told Ray before the hearing started, we had an announcement the day before yesterday in Arkansas that a group called the Arkansas Business Council, which are 15 or 20 of the richest people in my State, although after the last few days, not quite as rich as they were [laughter], had hired Ernest Boyer in the Carnegie Corp. for about $100,000—they paid for it all—to come in and evaluate the State system of higher education, so that we could develop a public-private partnership to reinvigorate it.

All the lines are blurring, and I think that there are opportunities that have not been seized for the Federal Government to do some of the same things, and again, that makes the expenditure of tax dollars more popular.

I would just like to make one other point about the GI bill concept, if I might, and the idea of getting more minority kids into college. The worst thing we could do is to reduce the student loan and scholarship program at a time when a middle-income family is spending twice the percentage of its income they were spending a generation ago to send a kid to college.

I would recommend that one thing you might want to look along the GI bill lines—something like this had been discussed by Chief Justice Burger and Senator Kennedy in an article they wrote in the Times a couple of months ago, and the Governors, a lot of us have been batting this around—is the prospect of having a big increase in the student loan and scholarship programs for students who, in turn, in return for that will do one of two things. Maybe you could make three. One, become tutors for adult illiterates or two, become people who will be involved in a one-on-one basis with at-risk children in their earliest school years, to make sure that they get a good grounding in basic skills.

If you do that, you won't have to worry so much about this tracking problem.

So I think that, again, you see that could capture the imagination of the country, make people think it wasn't just a tax increase to fuel the bureaucracy, it was an investment for the future.

Those are the kinds of things that I think the Congress could—maybe you, your committee could come up with this and bring it to Chairman Hawkins and maybe you could come up with a lot of those ideas that I think would really get a lot of public support.

Representative SCHEUER. Now let me just build on this idea. I take it, what you are saying, what all three of you are saying, is that the public would be interested and willing to pay for add ons—let's say a 2-percent education tax, which is what Lou Harris polled about—if they knew that something new and different and effective, cost effective and education effective, were going to result.

Now does that mean that our Federal program, whatever it is, should not be of the general revenue sharing variety—that we shouldn't just give the money to the States and say, well, all right, this is for education purposes. But rather, should we target the moneys for specific working programs that have stood the test of time, that we know can work, like the Job Corps, like Headstart, like perhaps some funding for your industrial coordinators? Should we target a group of programs and tell States, "These are the kinds of programs that we think you ought to target some funds into, and we are going to give you some funding for these kinds of programs," rather than just giving them an undifferentiated funding on the basis of a general revenue sharing formula?

Governor CLINTON. I think we would both like to answer that. I will defer to Governor DiPrete.

Governor DIPRETE. I am not—maybe cringe a little bit when I hear somebody say, "These are the programs that we want you to have," because my needs might be different than Bill Clinton and different from somebody else's, for that matter. I would strongly support a program where the Congress might say, "Mr. Governor of Rhode Island, you submit an application. You tell us what your needs are, what special needs. And if we think they are worthy, then we will help you fund them. We are going to demand accountability. We want to make sure the money is well-spent."

And I am sure, in our State, as in any State, we can document certain needs, perhaps, beyond which we, as a local and State government, can support. And they may vary from State to State, but we would certainly welcome participation by the Federal Government and hold us accountable for the results.

Governor CLINTON. My view is, you ought to do two things, that one, there are these programs that you know will work. We know Headstart works. We know chapter 1 works. We know if you increase the number of student loans for kids that are willing to then teach adults to read, we know that will work. You have to teach them to do that, but we know that will work.

Then there are all these other areas, where we know we have a problem, but we don't know exactly what will work. How can States develop more Boston compact models? How can you get more preschool education for at-risk kids and involve parents? You know, we could think of 10 things, if we had time. In those areas, I think you ought to appropriate moneys for programs in general areas and let the States make application and then hold them strictly accountable.

I think, with all these, you have to be able to demonstrate some accountability. You know, since we all have been kind of bashing the administration today, and I don't disagree with anything that has been said, I think I should say that one of the favorite pastimes in my party now is to dump on the Secretary of Education, because he says we shouldn't spend more money in these areas.

I will say that I think the Secretary of Education and his predecessor, both, however, have made one very valuable contribution to this education debate, which is to remind us that you don't always get your money's worth when you increase an investment, and that we do, those of us who want to spend more money, have the burden on us to demonstrate an accountability system and a return.

So I think if you give us the flexibility, you ought to have some idea in your mind about how you are going to hold us accountable, and I would welcome both those things.

Representative HAWKINS. Well, we do, in chapter 2 of the——

Representative CLINTON. Yes, you do.

Representative HAWKINS [continuing]. Elementary and Secondary Education, do precisely that. We target the money on the most disadvantaged. Under chapter 2, we give you what amounts to a blank check——

Governor CLINTON. You do.

Representative HAWKINS [continuing]. To use as you see fit. We do that already now. Has that worked out all——

Governor CLINTON. That is a classic—it is a good example. In our State, for example, we are using some of that money to implement the HIPPY program that was developed in Israel by——

Representative SCHEUER. The which program?

Governor CLINTON. Home Instruction for Parents and Preschool Youngsters, where you go into an at-risk home and teach the parent, no matter how limited the parent is, to teach the child, the 3-year-old, the 4-year-old, the 5-year-old child, to try to get the child ready for kindergarten. The program was developed in Israel to deal with immigrant populations that were poor and unlettered, coming into a highly sophisticated society. We now have it in five States in the country. It is a terrific program. If it weren't for chapter 2, we would have a hard time.

Representative HAWKINS. That is included in the new bill, H.R. 5, and is called Even Start Program, in which you are teaching both the adult, as well as the child at the same time.

Governor CLINTON. That is a good example.

Representative HAWKINS. Mr. Goodling, of Pennsylvania, was the sponsor of that particular component. I am glad to hear you say it is in five States and operating very successfully, but there again, whether or not we get the money now to back up the idea is another matter.

Representative SCHEUER. Governor.

Governor DIPRETE. One other idea we haven't talked about today and I think is a subject another day. Certainly, it is an extensive area, is the importance of, say, providing adequate day care for people who need it, for two purposes, really. I am sure there are several. But one is to complete their educational requirements. In many cases, the difference between a young mother finishing high school and not finishing high school, is the availability of day care, and second, helping businesses to provide day care, if you will, so that people who once had the skills and the education, but have youngsters, now have a method of going to work, earning a living, being a part of society, and at the same time, being sure that the young people are taken care of.

Sometime ago, we instructed the Department of Human Services to end the waiting list. We don't have a waiting list right now for day care in our State, because there were sufficient resources available at this particular time. Again, that may not always be the case. Fortunately, right now, we have the resources, and we have received, I would say, very positive results from the availability of day care, allowing young mothers to complete their high school or in some cases, junior college or college education, to go on to a business or a profession and become a taxpayer, so to speak. And that is the way they want it to be.

Representative SCHEUER. Secretary Marshall, there are several points you made that I would like you to elaborate on briefly, if you could. You talked about the Job Corps providing efficient learning systems.

Mr. MARSHALL. Yes.

Representative SCHEUER. And you talked about the problem of schooling versus education.

Can you elaborate on those two points?

Mr. MARSHALL. Yes. An efficient learning system is when you gain more knowledge and skills per unit of time and do it—and that's efficiency. So if you can take 90 hours of instruction and move people a year or two—it is not a linear relationship. It is a decaying curve, but you nevertheless are able, with fairly efficient learning systems, to move people pretty fast and to do it with a combination of methods. The assumption they make is people learn in different ways, and therefore, individualized training, so that you can do that, to use the interactive learning machines which are—have some real advantage for some things. They don't substitute for teachers, but they extend the capabilities of teachers. And the kinds of things that they can do that is hard for a teacher to do, is, first, individualize.

You can program the computer to say—for example, you work the problem wrong, and they say, that is not the right answer. Try again. You try again, and the computer can come back and say, "You missed it again. Let me show you what you are doing wrong," and show that this is your main problem. "Now try again." And you try again, and it says, "Congratulations. Move on to the next problem."

Well, that is a very efficient learning system, because it is individualized to you. There is also a high level of motivation involved in that. You break down. And it is one of the best ways to break down this tracking, because that machine won't track you.

Representative SCHEUER. The question I have is, what can Congress do to get a fairly rigid national education system as you've discussed?

Mr. MARSHALL. Well, I think what you can is, first, get information about such systems. And what we find out in the use of technology is that the obvious is often wrong. It takes some time to do it. General Motors, I think, has learned that. You know, they spent $60 billion since 1979 trying to become competitive, and their chairman said, if you don't pay attention to the system before you introduce the technology, you will just pile up scrap faster, and therefore, the schools need to understand that, but there is a wealth of worldwide experience now with the use of learning technology. Learning is big business in the world.

Representative SCHEUER. You are talking about computer-assisted learning.

Mr. MARSHALL. Yes. And there are all kinds of technologies, you can use. Chalk is a technology, and a blackboard. One of the first they introduced that made a lot of difference in learning. And slates. You know, that so we have been introducing the technology into the classrooms. Television is one technology that can be used. In fact, a lot of youngsters learn a great deal from television. So why don't we try to use television as part of the learning experience and coordinate that with what happens in the classroom. They are going to know more about what happens on one of these television shows anyway, but the technololgy is across the board. Part of what you need to do to get learning is for people to be motivated to learn, and part of what you can do with a good learning system and an efficient learning system is to deal with the motivation problem, as well as the learning pathologies, and the machines can track that better than teachers can track that. And, therefore, that is an efficient use of that kind of technololgy.

And what was your other question?

Representative SCHEUER. The question of schooling versus education.

Mr. MARSHALL. Yes. Well, schooling is what we have learned and the reason people make a lot of mistakes in trying to assess the significance of education, education is the achievement of knowledge and skills, whereas schooling is simply years in the classroom, warming a seat. And at one point, there was a lot of work done to correlate schooling with various kinds of outcomes, income, employment and all, and didn't find much relationship. But now what we find is, if you forget about schooling and correlate basic competencies with a lot of outcomes, a very strong relationship. There are competencies as measured by whatever kind of measurement that you have got for it. Now that is a whole other area, whether or not you are really measuring what you want to measure.

But anyway, the basic difference is that education refers to the skills and knowledge that you have got, whereas schooling doesn't necessarily measure that, and there is great variation. Otherwise, of course, we couldn't get illiterates coming out of high school. You know, if schooling were the same as education, then you wouldn't have the outcomes that we get. You wouldn't have American companies having to hire a lot of teachers themselves in Texas, for example, to teach elementary arithmetic to Texas high school graduates. That wouldn't happen if schooling was synonymous with education. I think education is the thing we have got to be worried about, and we have also got to quit worrying about it as correlated with your chronological age. You can learn a lot that has nothing to do with keeping you at your age level. People learn different kinds of things. There can be a lot more individualized learning, and people can set their own pace, and you don't have to take 12 years to learn a lot of things.

And one of the inefficiencies in the system, of course, is they keep repeating. How many times do you take English, the same English? They do it over and over, and the assumption is, if you keep on doing it, I guess, you finally learn it. But that is a very inefficient way to learn, to internalize, as lawyers say, you know, and judges.

I think that that is what we have to have—that is what learning is all about.

Representative **SCHEUER**. You mentioned that Japanese students get 4 more years of schooling by the time they finish college, and I take it you are referring to the fact that their school year is approximately 240 days and ours is 180.

Mr. **MARSHALL**. Our average is not 180. That is what they schedule. If you look at how many they actually go, it is something like 165.

Representative **SCHEUER**. And I suppose among minority kids and disadvantaged kids it is probably lower than that.

Mr. **MARSHALL**. Probably lower.

Representative **SCHEUER**. Do you think that our education system has sufficient flexibility and sufficient desire to change and sufficient desire to enrich kids' summers to be willing to extend the school year so that it equals the Japanese school year?

Mr. **MARSHALL**. Well, I think there is a lot of inertia in any system, by definition, and it is not easy, as Governor Clinton emphasized, to change the school system. Having been an educator for well over 30 years, I know how intransigent it is. Probably universities are more intransigent than the lower levels of schooling. But it is a system that tends to be self-perpetuating, to have its own incentives, and I would say, if you are going to reform the system, you ought to pay heavy attention to the incentives. You ought to ask yourself questions like the following:

Why is it that you can get all of these beautiful kinds of exemplary programs all over the country in places like New Haven, where Jim Comer did there in his book, "School Power" and his work on that, which I commend to you. And it didn't cost a lot more to do all those things that he did but took one of the worst schools in New Haven and made it one of the most competitive schools in the whole area.

Now the question is, Why won't school systems emulate that? Why won't they adopt that? You would think that is such a great notion, that they would just be falling over each other, to do that.

Representative **SCHEUER**. Why didn't they adopt Headstart?

Mr. **MARSHALL**. Well, the answer there is, that their incentive system gives no brownie points for doing those kind of things. In fact, many of the incentive systems are perverse. You see, if we are going to allocate money to schools on a basis of average daily attendance, and you take the average daily attendance as we do in Texas, some week in October, you are not going to have much incentive to prevent dropouts, are you? The incentive is to get dropouts, if you are looking at the economic incentive. You get more money to spread over fewer kids. They even had like American

Airlines or some airline contest to get people to show up that week. You know, they would send you off to the Bahamas and some things like that, to get your money.

Well, if you ask them what they are doing, they don't even tell you that they are concerned about educational achievement. They say we're trying to get the ADA, get the money that gets allocated there. And therefore, you have got to pay attention. You have got to create an incentive system that will achieve what we want to achieve. And I would say that one of the best ways to do that is to judge people. I think accountability is great. You can make some serious mistakes with it. If you tried to allocate money according to, say, scores on achievement tests, then you would allocate the way it goes now. Most of the money would go to the high income groups.

So the best way to do it, in my judgment, would be to use the value added, as I judge you on the basis of how much you improve the learning, the knowledge and skills of those young people in that school and then most of it would go to the most disadvantaged places, because you can make more progress with them than you can with people who are not going to—the evidence suggests to me that the higher middle-class kids are going to do all right anyway, and therefore, school makes less difference to them.

Now I think that with seriously disadvantaged youngsters, if you do it right, a school could make a tremendous difference. It could compensate for all the problems that they have from before birth on. Some. You can't do all of that, but you can do a lot of it.

Representative SCHEUER. That is what title I of the ESA was all about.

Mr. MARSHALL. Yes.

Representative SCHEUER. Let me ask these two political practitioners, the Governors, how do you feel that we can create incentives for State education systems to improve that performance, to change schooling into learning? Would it be to perhaps expand the school year another 60 days from 180 to 240 days? How do we create the incentives for vocational education programs, so that they aren't teaching young kids how to be carriage makers and whip manufacturers?

Governor CLINTON. I would like to answer that, but I would like to make a comment first about the school year. I have found that on every other issue, the people are away ahead of the politicians in my State. They will support you doing anything, you know, making our kids take umpteen years of math and science or whatever, except on lengthening the school year.

Representative SCHEUER. When you say "the people," which people do you mean,

Governor CLINTON. The parents, the voters, the citizens, the people that voted to raise their taxes and voted to do everything else. They are exceedingly resistant to lengthening the school year.

Representative SCHEUER. Why is that?

Governor CLINTON. Oh, I think it is just deeply ingrained. You hear all the stuff that the kids, their learning will drop off. They can't concentrate in the summer. The heat—we don't have our school buildings air-conditioned.

Mr. MARSHALL. You have to get the cotton picked too.

Governor **Clinton**. You hear all that sort of stuff. But we all know—the school year was designed for an economy and society that no longer exists, but people are really resisting it. But let me suggest something to go along with what has already been said.

No. 1, I think there is much more opportunity to lengthen the school day than the school year, because most kids have all the adults in their home, whether it is one or two, working. So I think there is an opportunity there, and there ought to be more attention given to whether or not we should lengthen the school day rather than the school year.

No. 2, I think that we are overlooking the fact that even though we wind up behind the Japanese, the Germans and others at high school graduation, our kids who go on to college, most of them catch up, because we still have a better system and a more comprehensive system of higher education than they do. Therefore, maybe if we can lengthen the school day and help everybody, what we should look at is, what you all have already discussed, using the summers to help the people who really need it with summer school programs, and maybe we ought to really bring back summer school in America. It doesn't exist in most places, and maybe we ought to bring it back again in a very targeted, careful way.

Representative **Scheuer**. Yes. If those fellows down at the OMB were really thinking about cost-effective investments in education, I can't think of a more cost-effective education expenditure or investment than providing the human resources to utilize that capital plant.

Does it make any sense to have America's education capital plant—all the buildings, all the equipment—lying fallow for 3 months a year, plus evenings and weekends and holidays? It seems to me that we could use it more intensively, more effectively, evenings, weekends, summers. By a very modest investment, we can get a terrific bang for a buck by making that capital plant work harder and contribute more.

Mr. **Marshall**. I believe the school could be a community—I believe in community-based schools, and schools can do a lot of things that would help with adult education. The parents ought to be more heavily involved. I believe in school-based clinics that could help with a lot of health problems, and it could be the center of activity around the clock and around the year. And my view is, we ought to give heavy weight to try and do that.

Representative **Scheuer**. Well, this has been a marvelously stimulating panel. We have gone over 2 hours. We have way overspent ourselves. We have yet another panel to go. I feel like saying, as Ted Koppel does, to our local stations, "We may go over a few minutes." [Laughter.]

But I want to thank you all for your very thoughtful, very stimulating, very provocative testimony.

Thank you very much.

Governor **DiPrete**. Thank you, Mr. Chairman.

Mr. **Marshall**. Thank you.

Governor **Clinton**. Thank you.

Representative **Scheuer**. All right. We will now—with apologies—invite the second panel to come to the fore.

Ira Magaziner, Marc Tucker, Ralph Lieber, and Pat Choate.

My apologies to the second panel. We have gone way, way over with the first panel, which was a very interesting panel. I am sure this will be, too, and I am prepared to stay until 1 or 1:15, so that we will have roughly an hour and a half, if that is okay with you.

Since Mr. Choate has a time problem, I am going to recognize him first. Maybe I'll ask a couple of questions as you go along, Mr. Choate, so that you can leave when you are finished.

But let me just provide an overview of the panel. We have with us Ira Magaziner, founder and president of Telesis located in Providence, Rhode Island. Mr. Magaziner is an extraordinarily successful and well-regarded management consultant. His firm specializes in corporate strategy and industrial policy, and he has clients both at home and abroad. He is characterized as a walking encyclopedia of the industry, labor and trade practices of developed countries.

Second is Marc Tucker, executive director of the Carnegie Forum on Education and the Economy, who will discuss why the future for unskilled and semiskilled labor is bleak, and why we don't have an American policy to address it. He will address the question of illiteracy and how American education policy operates in our schools and in our corporations. He will also address the education and training needs of American wage earners and why a massive effort is needed.

I might say at this point that we've consulted with Marc Tucker and picked his brains and relied on his extraordinary knowledge and imagination and creativity and resourcefulness in the design of this entire set of hearings. And we are very much in his debt.

Ralph Lieber is Superintendent of Schools, Bartholomew Consolidated School Corp. in Columbus, IN. He has written a number of education articles. He has taught at the university level and he has his own education television talk show. He will explain the reforms he has implemented, as well as comment on the reaction to these reforms by parents and teachers and the results in student performance.

So this is going to be a very interesting panel.

First, in deference to Mr. Choate's time problem, let me ask him to talk to us for about 8 or 10 minutes, and I may interrupt him with a question from time to time, because he is going to scoot out when he is finished.

## STATEMENT OF PAT CHOATE, DIRECTOR, POLICY ANALYSIS, TRW, INC.

Mr. CHOATE. First of all, Mr. Chairman, I very much appreciate your indulgence and that of the panel to permit me to submit this statement and then answer questions out of turn.

As I was preparing this testimony last Saturday, ironically, my wife received a letter from a school friend of hers, a woman who is now in her late forties, and it was so much on the target that I asked permission to quote part of that letter. I think it expresses what is happening in America, even with low levels of unemployment. With your permission, I will read you three paragraphs of that letter. It goes like this.

She writes:

Unless there is a miracle, I am to be riffed, hopefully not until the end of the school year.

It is all a matter of money. Our school district finds itself with about $300,000 less this year than last. The superintendent tells us that nine of our 21 teachers must be riffed. I will be one of those. So here I am facing mid-life crisis I never expected. How do you change careers at 49, especially when you live in a place that is in an economic depression?

The awful business started about a month ago, and no matter how I try to put it out of my mind, it creeps back in and I find myself thinking about it most of the time. Sometimes I think I will be glad to be out of teaching, then I think of the younger kids I was looking forward to having in high school and it makes me mad. Some days I can laugh and joke, and some days I feel like it won't really happen, and some days, I feel like it already has.

If I can get through the year without an ulcer or a perpetual migraine, I'll feel fortunate.

Representative SCHEUER. Well, that is sad. Let me ask, why should that school district have $300,000 less money?

Mr. CHOATE. Because it is in a State, Oklahoma, that is in the midst of what, by any standards, one would have to say is a depression. The State government faces money, all production is down, the tax base is down, farming——

Representative SCHEUER. Was that a cut in State funding that produced this?

Mr. CHOATE. It is local funds.

Representative SCHEUER. Local funds.

Mr. CHOATE. It is the tax base that is shrinking up, because businesses are in a depression.

Representative SCHEUER. I see.

Mr. CHOATE. Now I think there are some important lessons in what is happening there. I think the first lesson is that even as we, as a country, recognize the need for greater education we find many of our communities are facing a real problem in getting money. Her comments add a real poignancy to the comments that you were making about OMB and the Federal Government and investment.

I think the second point that it makes is about the displacement that is occurring in this country is just not limited to people in the steel and in the basic industries or in the oil industries. It rips across many parts of our economy.

I think the third point that it raises is just not those that have less education are being affected. Many people that have good educations are now being harmed by these dislocations.

And I think the fourth point that it makes is that dislocation is now a structural reality in our economy. This is happening, even though we are below 6 percent national unemployment. When we take a look at this economy, what we find is that since 1979, 2 million of our people have lost their jobs each year, because their jobs have disappeared. Half of those, a million of those, have been on the job for 3 years or more.

If this financial panic that we now find ourselves in is a harbinger of a recession, and I think it is, then what we can anticipate is a real rise in unemployment levels and the pain, the trauma and the dislocation that we are seeing in places such as Oklahoma and in many other communities in this country, will expand.

The issue, I believe that we face is how, before we move into deep recession, which will come in 1988 or 1989 or 1990, it will come, is the question, how do we prepare ourselves to deal with this dislocation and help our people make the adjustments? Some of that has to be advance notification. Some of that has to be portable pensions. But there are two things that are particularly important. One is, How do we make the Job Service really work? How do we give people the counseling, the testing, the referrals to jobs?

As Governor Clinton was saying, it should be a high priority item.

My argument is that this is not a matter of collecting more taxes or money. I think what is not generally understood is, the money has already been collected to fund that system adequately. It is collected through the payroll tax. It is held in a trust fund. What is happening is, the Federal Government is not releasing those funds and sending it back to the States.

At the beginning of this year, there was a billion dollars held in that trust fund. Rather than using the moneys to help the States make those systems operate, the money is being used to finance the Federal budget deficit.

The second major challenge that we face is, how do we go about creating a financial system, so that people can be assured that when they need reeducation and training, that they can get it? We could either do it through financing through the Job Training Partnership Act. That is one route. We could create a new trust fund, as Marc Tucker speaks about in his testimony, much as the Germans do with the tax on employers and employees, or we could set up a third measure called individual training accounts.

I am suggesting whichever of these mechanisms or variations or a fourth or fifth measure, it is important that this country quickly develop an assured training, reeducation mechanism for displaced workers and that we take the Job Service in this country and bring it up to speed.

It is imperative that we do this sooner rather than later in anticipation of the dislocation created by the next recession.

With that, I will end my remarks.

Representative SCHEUER. Thank you, Mr. Choate.

[The prepared statement of Mr. Choate follows:]

## PREPARED STATEMENT OF PAT CHOATE

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

Thank you for inviting me to share some thoughts with you on education, training, and worker adjustment. In fairness to you and my employer, TRW Inc., I emphasize that the views I offer do not necessarily represent any position other than my own.

### A Very Human Predicament

I prepared this testimony over the past weekend. Ironically, my wife received a letter from one of her girlhood friends, who is a teacher in Oklahoma. Far better than any analysis that I could present this Committee, her words summarize the quiet desperation in which millions of Americans now find themselves.

She writes:

> Unless there is a miracle, I am to be riffed, hopefully not until the end of the school year.
>
> It's all a matter of money. Our school district finds itself with about $300,000 less this year than last. The superintendent tells us that nine of our 21 teachers must be riffed. I will be one of those. So here I am facing a mid-life crisis I never expected. How do you change careers at 49, especially when you live in a place that is in an economic depression?

> This awful business started about a month ago, and no matter how I try to put it out of my mind it creeps back in and I find myself thinking about it most of the time. Sometimes I think I'll be glad to be out of teaching, then I think of the younger kids I was looking forward to having in high school and it makes me mad. Some days I can laugh and joke, and some days I feel like it won't really happen, and some days, I feel like it already has.
>
> If I get through the year without an ulcer or a perpetual migraine, I'll feel fortunate.

The predicament of my wife's friend says something about education. At precisely the moment we need more and better education, many states and communities are being forced to cut back because of tightening budgets.

Her dilemma suggests that it is not just manufacturing workers or those with a poor education whose jobs are at risk. It also says much about the trauma and worry that accompanies worker displacement.

Most important, her pending unemployment highlights the vast structural changes underway in our economy. Despite the strong economic growth experienced by our economy over the past 60 months and the low levels of unemployment, each year during this period two million American workers have lost their jobs because their jobs have disappeared.

Even if the majority of our workers do make needed adjustments, there will be differentials between segments of the work force. If the past is a guide to the future and if nothing is done, we can expect:

- Low skilled workers will have much more difficulty in finding a replacement job than managers and professionals;
- Black and Hispanic workers will remain unemployed much longer than their white counterparts;
- Women will be far less likely to be reemployed than men and more likely to drop out of the work force altogether.
- Displacement will be concentrated in specific places, reflecting the concentration of specific industries undergoing structural change.

## Faster, Less Painful Adjustment

An effective worker adjustment program must be swift, effective, and distinguished by its broad coverage, easy access, simplicity, limited red tape, early intervention, individual choice, assured financing, competence and great flexibility.

Most of those who are displaced will need another job. Many will need additional or different skills. Some will be forced to move if they are to get a job. To meet this challenge, the United States requires a strategy in which responsibilities are allocated to those best able to meet them -- government (federal, state, and local), business, and the workers. Among the elements of such an effort that merit consideration are advance notification and portable pensions. Two that warrant special attention are:

- o Testing, counseling, and job information; and
- o Additional education and training.

Testing, Counseling and Job Information -- Most dislocated workers will require testing, counseling and reliable job-search information to make the transitions they face. The Wagner-Peyser Act of 1933 created a state-run, federally financed Employment Service (ES) to fill this need. The ES has 21,000 employees who operate approximately 2,400 local offices. Their basic mission is to match workers seeking employment with employers seeking workers.

This system is barely functioning. Only 7 percent of job seekers receive counseling, 3 percent are tested, and less than 2 percent are referred to training. The Department of Labor reports that only seven percent of the nation's vacant jobs are filled by ES referrals.

In part, this system is failing because of inadequate funding -- much of the money collected to operate the ES is not returned to the States but banked in a special federal trust fund. In part, ES has failed because of its slowness in modernizing. Today, half the states have not computerized their operations. And in part, ES is failing because responsibilities are unclear. Secretary of Labor Bill Brock has proposed a number of sweeping reforms in each of these areas, but they have received scant attention and some opposition. Whether his approach or some other is used, reform of the ES is essential.

Education and Training -- While not all workers will need additional education and training, many will. The lack of assured financing is a formidable obstacle they face. This challenge can be met in a combination of ways.

One is to increase public spending. But as the dilemma of my wife's friend suggests, this may not always be possible.

Another is to mandate training by employers. Yet, many employers, particularly smaller firms, are unable to carry the full costs of such retraining.

To leave the financial burden on the displaced worker is to place a load on them when they are least able to meet this responsibility.

Clearly, what is required is a sharing of costs between society, employers and workers. This could be done in a number of ways. Malcolm Lovell, former Undersecretary of Labor, has proposed a very small increase in payroll taxes. The funds would be made available to workers in the form of a voucher that could be redeemed for additional education and training. It would work, and work well.

The approach that I favor is the Individual Retirement Account (ITA). It would combine a voucher-based delivery system modeled on the GI Bill with a savings- and equity-based financing system analogous to the Individual Retirement Account (IRA).

The ITA would be tied to the worker not the job. Funding would be provided by equal contributions from the worker and the employer. Total contributions to each ITA would be fixed at some amount such as $4,000, which would cover th costs of most training and provide up to $1,000 for relocation. Annual contributions would be staggered over several years to reduce the financial burden on both workers and employers. Once the ITA totaled $4,000, contributions would cease.

At retirement, both worker and employer would be entitled to withdraw their contributions, plus tax-free accumulated interest, just like an IRA. If the worker died prior to retirement, the contributions would go to the worker's estate. If the worker was displaced, however, the entire trust fund would become available, tax-free, in the form of a GI Bill-type voucher for training and/or reimbursement of moving expenses. The choice of training and where it would be taken would be left to the worker. The U.S. government would certify training institutions just as it did with the GI Bill.

Whether the ITA or the Lovell proposal or some other alternative is adopted, it is clear that we need to find some way to assure the funding for education and training of the nation's displaced workers and that alternatives do exist.

## Conclusion

In summary, the American economy is now much like an apparently calm body of water, but one with vicious undertows. The rough structural transformation now underway in the U.S. economy will continue well into the foreseeable future. The massive and widespread worker dislocation that we have seen in the good times of the past 5 years will surely worsen in the years ahead, particularly when we move into the next recession. If we will recognize this reality now, we can create an approach to worker adjustment that can mitigate much of the pain, trauma and costs that we face as a people and as individuals.

Thank you.

Representative SCHEUER. Mr. Choate, you are posing it as a given that we are going to have a recession, and probably there is nobody in this room who is bright enough to predict with that kind of assurance that we are going to have a major recession. I suppose I may be unduly optimistic, but they say, optimism is to a politician what courage is to a general. [Laughter.]

If you don't have it, you had better get into a different line of work.

I am optimistic. I believe that with the application of human intelligence, we can avoid a major recession. I think the happenings of the last 48 hours, that incredibly cataclysmic day or two on the floor of the stock exchanges around the world should alert us to the fact that we have real troubles looming ahead. It should be an early warning signal that we have got to get our economic act together in this country. I notice that the President is saying for the first time that he is willing to sit down with the leadership of the Congress, in a nonpartisan effort to find solutions to our economic problems. And he even said that he would be willing to consider tax increases.

Now this was a quantum jump for our Chief Executive, and I suppose the extraordinary events in the stock market in the last couple of days has flabbergasted a lot of people and has sent a signal to a lot of people that our economy is in grave trouble. I certainly hope that the President will go beyond his statement that the economic indices are great. I hope he will understand that we have gone from the greatest creditor nation in the world to the greatest debtor nation in the world in a matter of about 18 months, that we have taken the accumulated budget deficit of 200 years, which was just under a trillion dollars when he took office, and we have tripled that in the 8 years that he has been President.

Now that has got to send him and other decisionmakers in Washington a message that something is wrong and I hope we just won't take a band-aid approach to the problem of the securities market but rather look at ourselves in depth and try, through a process of introspection and mutual soul searching, to come to some basic decisions as to what is wrong with our economy.

This set of hearings is about what we can do to achieve an educated and productive work force. That is the purpose of these hearings.

I hope the Joint Economic Committee will have a set of hearings on where we are and how we got here and we better decide where we are going to arrive, as Secretary Marshall pointed out, because if we don't, we can look down the road that we are traveling now, and that is where we are going to be. We must do something rather radically different than what we are doing now.

So why don't you finish your testimony, addressing yourself, to the extent you can to the measures that you think ought to be taken to achieve an educated, productive, creative work force.

Mr. CHOATE. Well, I would agree with you very much that our economy is extraordinarily fragile, but I think the central point that I want to make this morning is that even now, in some of the best of times that we have had in many, many years, is that we are still seeing 2 million of our fellow citizens lose their jobs, because their jobs disappear, and that most of those people need work, most of those people will require additional education and skills and training to make the adjustment, and most will need counseling, testing, and referral.

Representative SCHEUER. And maybe relocation.

Mr. CHOATE. And perhaps relocation.

Representative SCHEUER. We have lost 200,000 or 300,000 jobs in the automobile industry, as we have been outcompeted. The U.S. auto industry has had to automate, to cybernate, to apply science and technology more intensively than they have in the past, as a result of the prod of foreign competition. That means that a lot of routine assembly line jobs are now machine controlled, computer controlled, robot controlled, and unskilled workers have become redundant in our society and the dramatic loss of jobs in the automobile industry is perfect proof of that. Now I suspect that very few, if any, of those workers who have lost jobs on the automobile assembly lines of Detroit are ever going to be rehired back on those assembly lines.

Mr. CHOATE. Never.

Representative SCHEUER. And I think our society has to face up to the question, as you have suggested, Mr. Choate, of how we treat those people. Are we going to cast them on the human slag heap? Are they never going to have a full-time meaningful job in the rest of their lives? I think we can't accept that. I think we have got to retrain them, reeducate them, improve their skills, sharpen not only their reading, writing, and accounting skills, but sharpen their ability to process knowledge. What did the prior panel call this? Come on, Marc. What did they call it?

Mr. TUCKER. Higher order skills.

Representative SCHEUER. Higher order learning. That's right. That is what we are talking about, the ability of people to absorb information and process it and develop answers to solve problems. We have got to help these people who have lost their jobs in the automobile industry. They are symbolic of a national problem, that is people with adequate job skills, and perhaps inadequate literacy, and reasoning skills. These individuals are not going to find much of a place in our society, and we have simply got to help them mobilize their own resources and enable them to take advantage of all the intellectual and social talent that they have and to apply it to a job situation.

And that is a challenge of no mean order of magnitude. It is a great challenge to our society, but it has got to be done.

The loss of some jobs is permanent. These are jobs that will never return, jobs that have disappeared for good. They have blipped off the radar screen, and the human tragedy that that entails is perfectly well represented by your letter, although, that person, being a teacher, probably will find another job in teaching. Her skills have not become redundant.

Mr. CHOATE. But in another place.

Representative SCHEUER. Teachers are necessary in society, but that automobile worker has become redundant. Nobody is going to need the skills that he had formerly employed. Our society is going to have to help him develop all of his latent talents and sharpen his skills and especially his ability to process information. That is a major challenge, as you pointed out.

Mr. CHOATE. I would say one thing. The Employment Service offers a major national resource. It has 2,400 offices, one in commuting distance of virtually every worker. It has 21,000 employees. But the difficulty that we have with that system—because it hasn't modernized, because only half of the States have even put computers into that operation, because they have limited budgets and many, many mandates—is no more than 3 to 4 percent of those who go into those offices can get the testing, can get the counseling. It is able to place no more than 7 percent of the dislocated or unemployed workers in the country, and yet at the same time, here we have more than $800 million of billion of moneys that have been collected from workers and employers to make that system work, sitting in the trust fund.

It just seems to me that at this very traumatic point of a person's career, when they lose a job, they don't know what to do, they don't know what they are good at. They don't know what education and skills they may need and where to get it, that here is a national resource that we could invigorate, that could really help people at a time that they need it.

I hope that out of these hearings that you can focus some attention on that need and that potential and the fact that here is something where you are not talking about raising taxes. The money is here.

Representative SCHEUER. Yes. Japan has a system of helping people with jobs, and the Japanese people don't have the problem of functional illiteracy that we have, but I have often thought we ought to add a new element to that equation. The Japanese have a computer system that identifies a job and identifies a person and gets the person together with that job, even though the job can be anywhere in Japan.

I have often thought that what we need is a system—a three-dimensional system. It would identify a person, identify a job, perhaps one that will be available 6 months or a year from now, and the computer will also identify a period of time and a program of training. In other words, the computer will say, all right, here you are, here is your level of skills. There will be a job for you 12 months from now or 6 months from now in Akron, OH, or San Francisco or wherever, and these are the additional skills you must acquire to meet the demands of that job. And if you do meet the demands of that job, that job will be ready for you.

I think that we have the technology to produce such a system, but I think we need to have a national will to produce such a system, and that kind of approach may be the only approach that is going to save the life and the morale and the hopes and the dreams of not only that unemployed Detroit worker on the automobile production line but that of his family too.

Mr. CHOATE. Well, we already have the money collected to set up such a system.

Representative SCHEUER. And that is in which trust fund?

Mr. CHOATE. It is the administrative trust fund of the Job Service of the Employment Service.

Representative SCHEUER. Of the USES?

Mr. CHOATE. Yes, sir.

Representative SCHEUER. Yes.

Mr. CHOATE. And second, once you have such a system set up, I think we can make money for America, in the sense that by speeding that redeployment, we will be able to cut unemployment insurance, we will be able to cut all of the associated costs.

Representative SCHEUER. Welfare.

Mr. CHOATE. Welfare. So it is just good business sense to do these kinds of things, I believe.

Representative SCHEUER. That investment that you are talking about is the key to opening the door for that worker to get into a whole new productive life of self-esteem and independence. You transform him from a taxeater into a taxpayer.

My God, what better investment could our country have?

Does that finish your testimony?

Mr. CHOATE. It does, and I thank you for the opportunity.

Representative SCHEUER. I know you are pressed for time, Mr. Choate, and I am delighted that you came, and we value your testimony, and we appreciate it very much.

Mr. CHOATE. Thank you, sir.

Representative SCHEUER. All right, now we will go back to our schedule, and we will ask Ira Magaziner, president and founder of Telesis, to take 8 or 10 minutes, and then we will hear from the rest of the panel, and then we will have some questions, I am sure, for all of you.

## STATEMENT OF IRA C. MAGAZINER, PRESIDENT, TELESIS

Mr. MAGAZINER. The last time I came before this committee in 1982, I talked about the need for aggressive industrial policies to match the policies that were existing in other countries, including policies having to do with training in the existing work force. And the consensus on that day of economists testifying before the committee and also of committee members was that my prediction that our trade balance would erode if we didn't do those things, was alarmist. They divided evenly between those who felt that the tax cut of 1981 would solve the trade balance problem and those who felt that if we could just get the yen to 180 to the dollar and the deutsche mark to 2 to the dollar, that that would solve the problem.

There was also general agreement on the idea of a recent, at that time, Brookings document, which said that we didn't have to worry about "smokestack America," because "high tech" America would replace it.

Now it is 1987, 5 years later. I am glad to be back. The tax cuts have come and gone. The yen is at 140 to the dollar and the deutsche mark is at 1.7 to the dollar today. The trade in "smokestack" industries is still negative and the trade in "high tech" industries is also negative.

In the late 1970's, those of us concerned about issues related to our trade balance talked about industrial policies. That became a word not to be said in polite company in the early 1980's, and then we talked about industrial strategy, and then that also lost fashion, even before it had gained fashion. And now we talk about competitiveness policies.

Despite the three different names, we still haven't done very much to address the fundamental problems with trade policy.

I would like to suggest that there are four essentials to dealing with that. One is a skilled work force, and that is the one we are focusing on today. The second is a leading technology base. The third is new product development imperative, and the fourth is an export imperative.

What I am going to do today is just focus on the first one, and I am going to focus, as I have been asked, on the existing worker, particularly production worker, either in a factory or in an office. I will talk about what can be done and what has to be done to upgrade the skills of the worker.

I can speak about a dozen different countries that have more active policies than we do. I will focus only on one, Singapore, because I just got back from there a couple of weeks ago, and it is on my mind. And I will also give the U.S. comparison of what I think is possible.

Just to alert those of you who are not intimately familiar with Singapore, there are 200 U.S. companies based in Singapore, who employ about 100,000 people, almost half of them in the electronics industry. They include companies like AT&T, Texas Instruments, Apple, General Electric, Westinghouse, and a long list of other fairly familiar names of American high tech. Joined by over 300 other companies from Europe and Japan, they export about $11 billion which makes Singapore, with just 2½ million people, one of the world's big league exporters.

The average wage, including all benefits, in Singapore, is $2.25 a hour, but that is no longer regarded as a cheap wage in the world. Those companies looking for cheap wages now go to Thailand at $0.75 an hour or to the Shenzen area of China for $0.60 an hour.

And companies that now locate and expand in Singapore do it because of the skill base and the government programs for upgrading the skill base, not because of the wage rates.

I would like to give you a glimpse of some of those programs.

The Economic Development Board of Singapore, which coordinates these programs, runs itself, seven different training institutes. Three of them were designed for craftsmen training, and they graduate about 5,000 students per year involved in precision and computer numerically controlled machining, tool and diemaking, precision mechanics.

There is a technical institute, specifically designed for maintenance technicians, teaching them how to maintain microprocessor and computer controlled machines.

There are three technology institutes, set up in cooperation with different foreign governments, one with the German Government, that is involved with production technology, one with the French Government, involved with control engineering instrumentation and electronics, and the third with the Japanese Government, involved with information technology and software development.

I should say that having toured these institutions the past week, there are more functioning third generation robots in those training institutes than there are in all industry in the State of Rhode Island.

Representative SCHEUER. Wait a minute. In all what?

Mr. MAGAZINER. In all of industry in the State of Rhode Island. That is, all of the industrial base has less robots than those training institutes have.

The second series of programs, in addition to these seven institutes, run by the Economic Development Board, is what they call the Continual Upgrading Training Program or CUT. There are eight specialized programs offered in cooperation with existing companies in Singapore. All of these institutes operate as joint company-government entities.

These eight programs give training to existing workers. They average 6-month courses, either part time or full time, in computer-aided engineering, robotics, computer design and manufacturing, metrology and computer numerically controlled machining.

Since 1983, over 400 courses have been offered under this program, and it involves about 4,000 participants from industry every year.

Then, finally, there is what is called the Skills Development Fund in Singapore, which basically provides funding incentives for in-house training programs by companies. This program offers from 30 to 90 percent reimbursement for in-house training programs that are developed by companies. About 10,000 workers participate a year, and it is an $80 million program.

The government also produces publications and tries to help design these training programs.

They also have a basic level program for unskilled workers, junior level workers, in fundamental problem-solving skills, work economics skills, computer literacy skills, and so on.

Finally, there are grants. When a company is going to introduce a major new technology that involves a significant training program, there are specific grants that can be given companies to assist them with that process, and about $30 million is spent per year.

Now these Skill Development Programs are very well utilized and respected by industry. I just visited the Apple factory in Singapore, which provides about 55 hours per year of training in-house, to every worker. About 30 percent of their work force is taking courses at one of these seven EDB training institutes or at the National University.

I have interviewed a whole series of American companies based in Singapore to see how they evaluate these programs, and they evaluate them very highly. They think that workers learn to understand more about the technical basis of their job and, therefore, can take initiative much more in problem solving. And we have documented a whole series of cases where workers have been involved in assisting the productivity and quality of the production process, utilizing skills that they learned in these institutes and in these programs.

At many companies in Singapore, it is like a religion to continually upgrade your technical capabilities. All over, you have line workers training to be test technicians who are, in turn, training to be maintenance technicians, who are, in turn, training to be engineers.

The pace of technology is so rapid today that upgrading has to take place within existing companies or existing factories, or else you are not going to be able to keep up and compete.

The reason I have used the example of Singapore, is that many U.S. States are similar in population to Singapore. We have got one disadvantage they don't have, and that is about 30 percent of our adult work force is functionally illiterate, whereas in Singapore, a developing country, only 4 percent of their work force is functionally illiterate. Yet we also have compelling circumstances, which I think forces us to have to act. One is that our average wage rate is four times that of Singapore, and I think we would all like to see it at least stay there.

And second, while Singapore has a positive trade balance, we have one that is very dangerously negative.

Now I would like to tell one quick positive story, if I might, in the United States to show what I think is possible, and then conclude with some recommendations.

There is one General Electric plant in Columbia, TN, with which we have worked, which makes a very mundane product, a refrigerator compressor. The plant competes with factories in Japan, Singapore, Brazil, and Italy, which make the same product. The GE plant in Tennessee pays wages which are almost 10 times those paid in Brazil and 8 times those paid in Singapore, but the plant produces a compressor which has 10 times higher quality for 20 percent lower cost than those plants in low-wage countries.

The key is that the factory produces a new kind of compressor which requires a mass automated machining of metal parts to tolerances which are less than one one-hundredth the width of a human hair. The machinery required to do that consistently, was difficult to develop, but even more importantly, it is difficult to set up, run, and maintain.

GE decided to use its existing work force in Columbia, TN, to operate the factory. They built a $2 million training center, with some assistance from the State of Tennessee, in the factory, to train workers to run it. Most of the workers were, at best, high school graduates and were unskilled. GE offered to train them, but it said it would have to be on their own time after work, nor would there be any guarantees of promotion. That would depend on how well they performed.

They would have to put in between 120 and 400 hours in classrooms, labs and computer stations. Many predicted that the workers would never volunteer. In fact, the workers lined up in droves to volunteer. In the first year of the training center, the workers of GE Columbia spent over 50,000 hours, all on their own time, learning the new skills.

The training manager of the plant, who doubted that workers would volunteer, said he had learned a lesson from the experience and that is, if you give an American worker an opportunity, he will sacrifice for the new skills.

Now a production worker who used to put four screws into the case of an air-conditioner 712 times a day, that was his total job, oversees a $700,000 synchronous machine with 12 different stations. Another worker who put clips on wires over and over again, now operates a computer terminal making adjustments to control mechanisms to ensure the quality of the compressor.

In my 14 years of industrial experience around the world, I have seen a number of examples of this, not too many of them in the United States, but there can be a lot more examples in the United States, I think if we are willing to take the challenge.

What I would recommend to this committee is that it undertake, in cooperation with industry, to study setting up four types of pilot programs to upgrade skills of the existing work force.

One, which has been talked about before is a remedial program to eradicate the functional illiteracy in reading and math, which plagues so much of the work force. There is not much else you can do, until you do that.

Second, I think there needs to be sponsorship of joint industry-higher education partnerships to provide programs for skills upgrading in manufacturing technology for line workers, technicians, and industrial engineers.

We have the community college system in place which could serve to do what the EDB institutes do. I don't think we have to set it up separately, but I think they really need to upgrade. If you visit a lot of those community college systems, they are operating with 20-year-old equipment, and if you operate with 20-year-old equipment, you are not going to train somebody how to operate today's machinery.

Third, I think there needs to be sponsorship and incentive funding of State and local programs to encourage in-factory training programs to upgrade skills within the factory environments.

And finally, I think there can be more done to encourage our industry associations, which play a very important role in most other countries, to cosponsor training programs that would cut across those industries.

Now programs such as these have had a high degree of success in many countries around the world. I could bore you for a long time with a lot of examples.

They can be administered locally. I think the Federal Government has a role to play, though, in providing both poilitical leadership and also the financial incentives to stimulate the process.

It has been said before, but the only way we are going to maintain a $9 or $10 average wage in a world where people are working for $1 or $2 an hour, as if we can work smarter than they can. Doing so, requires a leading technology base, a push for new product development, and a will to export, but it also requires, perhaps most fundamentally, an educated work force concentrated at the cutting edge of the skills needed to operate modern production systems, whether they are in the factory or in the office.

We have a high living standard because our fathers and mothers built a very highly productive economy. We have sustained our high living standards during this decade mainly by borrowing over $500 billion from abroad and spending 97 percent of it to have a good time.

Representative SCHEUER. That is just about the figure that the security values eroded in the last 48 hours, about a half a trillion dollars.

Mr. MAGAZINER. Exactly.

You can run the figures on how much we have earned, versus how much we have been spending. We have brought in $500 billion from abroad and we have increased about three-fourths of a trillion. So that means if you run it out on a GNP per capita base, we have had very little increase in living standard in 6 years. But, on average, particularly where I come from in New England, people are feeling pretty good, at least they were until 2 days ago.

I think the concern I have is that if you look at the living standard we have versus a place like Singapore, it is based on the fact that we had built a highly productive economy over previous generations. And over the past 6 or 7 years, I think we have masked the fact that that economy is no longer as productive as it used to be, by essentially borrowing money from abroad every year and spending 97 percent of it, which is our way of taking the money we get and doing something with it.

And so our income has not gone up at all, but our consumption has, and in my view, we have no inherent right to that high living standard that we have. We have to keep earning it. If we can't maintain a higher skill base than the Singapores of the world that have $2.25 wage rates, it is only a matter of time before that living standard will be run into the ground. And people have talked before about implementation versus words. You can hear the same words all around the world in every country, but if you look at what is going on in places like Singapore or Taiwan, which are low-wage countries, they are implementing programs toward training of existing workers to upgrade skills which are making them more valued places to manufacture by U.S. manufacturers in areas like electronics than the United States, not because of the wage rate, but because of the skills of the people in being able to upgrade the manufacturing process.

They are working hard to build their skill base. We must work equally hard to constantly regenerate ours, or we are going to leave our children, not only with a huge international financial debt to pay, which is a seeming certainty, but also will leave them lacking in the skills necessary to earn the income to pay it. And that, to me, is the most important thing.

Thank you.

Representative SCHEUER. Thank you, Mr. Magaziner.

[The prepared statement of Mr. Magaziner follows:]

## PREPARED STATEMENT OF IRA C. MAGAZINER

I am president of Telesis, an international consulting firm with 150 professionals based in the United States, Europe, Japan and Australia. For the past 14 years I have advised international companies on corporate strategy and governments around the world on economic development policy.

I last testified before this committee in 1982. At that time, I advocated that the Congress take leadership on a series of industrial development policies to overcome the competitive international decline we were facing. I pointed out that other countries had such policies and that we were increasingly at a competitive disadvantage because we did not. I predicted that our balance of trade would seriously deteriorate.

The consensus among economists testifying and Committee members present that day was that my diagnosis was alarmist and that such aggressive measures were not necessary. Some felt that the tax cuts of 1981 would themselves redress our negative trade balance. Others felt that all we needed was currency adjustments to bring the Yen to 180 versus the dollar and the D Mark to 2 versus the dollar and our trade deficit would disappear.

Most agreed with Brookings documents which called the decline of "smokestack America" a necessary adjustment which would be offset by the growth of "high tech" America where the foreigners would have difficulty beating us.

Now it is 1987. The 1981 tax cuts have come and gone. The Yen is at 140 to the dollar and the D Mark at 1.7. Our trade balance in so called "smokestack" products is still negative and so is our trade balance in "high tech" products.

In the late 1970s, those concerned about America's industrial decline versus the rest of the world spoke of the need for industrial policy. By the mid 1980s this term was out of favor and instead the cry was for an "industrial strategy". And now, we talk of the need for competitivenss policies. Three name changes with no significant action.

There are four essentials to any program designed to restore America's competitive strength:

. A Skilled Workforce;
. A Leading Technology Base;
. A New Product Development Imperative; and
. An Export Imperative.

The Federal government has a role to play in all four areas, but it is only the first area which I will talk about today. In particular I have been asked to focus on international examples of efforts to reskill existing production workers. Many governments have active, aggressive programs in this area in combination with industry. Some programs with which I am actively familiar are in Sweden, Germany, France, Ireland, Korea, Japan, Taiwan, and Singapore.

Rather than go through a survey of these, I am going to focus on programs in one country, Singapore, and then discuss what is possible in this country.

There are over 200 U.S. companies who make products in Singapore which are sent back to the United States. They employ over 100 thousand people. Almost half of the firms are in the electronics industry. They include high tech household names such as AT&T, Texas Instruments, Apple, G.E., National Semiconductor and Westinghouse. They include new high tech startups such as Seagate and Micropolis. Joined by over 300 companies from Europe and Japan, they export over $11 billion, putting Singapore in the big leagues of world export. This, despite the fact that Singapore has only 2 1/2 million people.

The average wage plus benefits in Singapore is now about $2.10 per hour. Initially foreign companies came to Singapore for the cheap labor and because Singapore offered generous tax benefits and capital incentives to foreign investors.

Today, firms seeking cheap labor go to Malaysia ($1.10 average labor cost) or more recently to Thailand ($.75) and the Shenzen area of China ($.60).

Companies now locate and expand in Singapore primarily because of the excellent skills of its production workers and technicians and the elaborate programs of government incentives to bolster this skill base.

The following pages offer a glimpse at their programs:

1. The Economic Development Board of Singapore (EDB) runs seven training establishments which serve both high schoool graduates and factory workers who study either part time or on full time leave. These Institutes are all designed to provide training in simulated factory environments.

- There are three craftsmen training centers, one set up in cooperation with Philips electronics of the Netherlands, another with the Brown-Boveri Company of Germany and a third with Tata of India. These centers offer training in Precision and CNC machining; tool and die making and precision mechanics. As of March 1987, over 5000 students have passed through these centers for 2 year programs.

- There is one technical institute, the Japan-Singapore Technical Institute which concentrates on the training of maintenance technicians particularly for microprocessor and computer controlled machines. Two year courses exist in mechatronics, industrial electronics engineering and instrumentation and control engineering. This institute was established in 1983 and has graduated two classes so far.

- Three institutes of technology have been set up, one in partnership with the French government, one with the German government and one with the Japanese government. They train technician engineers from school and from industry. The German/Singapore institute focusses on production technology including applciation training in CAD/CAM, robotics and CNC technology. The French/Singapore institute focusses on electronics, control engineering, instrumentation, CAD/CAM/CAE and the electronics of automation. The Japan/Sinapore institute focusses on software development and information technology. Since their founding in 1982, almost a thousand graduates have come from these institutions.

These EDB centers are aimed mainly at school graduates, though they are also attended by people already working in companies.

2. Another series of programs, solely for workers already on the job are administered in what is called the Continual Upgrading Training (CUT) program.

So far, eight specialized programs offered in cooperation with existing companies in Singapore have been established under "CUT." These courses typically run 6 months and cater to skilled workers, technicians and maintenance engineers. The following programs are offered:

- Mentor Graphics Inc. and the EDB in Computer Aided Engineering (CAE) for IC design;
- Seiko and the EDB in industrial robotics interfacing, programming application and maintenance;
- Sanyo - Seiki and the EDB in industrial robotics interfacing, programming, application and maintenance
- Computervision Corporation and the EDB in CAD/CAM;
- Hewlett-Packard and the EDB in CAD/CAM;
- Japax Group and the EDB in CNC Technology; and
- Mitutoyo and the EDB in metrology.

Since 1983, over 400 courses have been offered through these programs which have involved over 4000 participants from industry.

3. In addition to these programs run at government created institutions, the Singapore government sponsors the Skills Development Fund (SDF) whose sole purpose is to encourage employers to upgrade the skills of their workers. The fund places primary responsibility on employers to identify training needs early and to provide the expertise to do the training. The fund supports this effort in the following ways:

- The SDF operates a scheme to provide grants covering from 30% to 90% of training costs for approved in-house training programs. About $80 million is awarded each year for training - about 10,000 workers participated last year.

- The SDF produces publications to help managers to initiate and shape the in-house training function;
- The SDF spawns industry-based training centers to meet the common needs of specific industrial sectors. So far eleven such institutes have formed including ones in banking and finance, hotels, contracting, insurance, retailing, textiles, etc.;
- The SDF has formed a program called Core Skills for Effectiveness and Change (COSEC) which has identified certain needs of junior level workers such as communications, problem solving, work economics and computer literacy. The intention of the program is to teach skills which if learned well, will allow junior level workers to adapt and respond flexibly to changing business environments;
- The SDF provides grants to assist companies in the training required to implement major new technologies in their factories -- over $27 million was spent on this program in 1986.

These skill development programs are well utilized and respected by industry. One U.S. employer in Singapore, Apple, which I recently visited, provides every assembly worker with 55 hours per year of training in-house to upgrade continually their skills.

In addition, 30% of their workforce is taking courses at one of the EDB training institutes or at one of the national universities. Apple encourages its workers to do this and will pay the tuition in most cases.

Most companies I have interviewed feel that they get more payback than anticipated from these programs. Workers learn to understand more about the technical base for their job and can and take more intiative for problem solving. In a book which will be published in June, I document a number of specific process innovations which improved productivity and quality in Singapore factories and which can be traced to the skills upgrading which various workers received in government/ industry training programs.

At many companies in Singapore, it is like a religion to continually upgrade your technical capabilities -- line workers training to be test technicians who are in turn training to be maintenance technicians who are in turn training to be engineers. As the factory becomes more automated, the existing workforce is both cause and beneficiary of the progress. Output goes up dramatically with the same numbers of workers and the factories become more competitive internationally. New, more sophisticated products are developed and the skills exist to produce them in a sophisticated way.

The pace of technology is so rapid today, that this upgrading must be ongoing at any successful factory. In Singapore, the government has developed this vision and a set of institutions to back up the vision in cooperation with local industry.

Most U.S. states are similar in population to Singapore. We have one disadvantage -- 30% of our adults lack basic literacy skills while a comparable figure in Singapore is 4%. Yet we also have more compelling circumstances to force us to devleop our skills -- our average wage rate is 4 times that in Singapore and while Singapore has a positive trade balance, ours is dangerously negative.

I could tell similar stories in other countries, but I would rather focus on a positive story in the U.S. which examplifies our capabilities -- if we put our minds to it.

There is a General Electric plant in Columbia, Tennessee making a very mundane product, a refrigerator compressor. The plant competes with factories in Japan, Singapore, Brazil and Italy making the same product. The G.E. plant in Tennessee pays wages which are almost ten times those in Brazil and eight times those in Singapore. But the plant produces a compressor which has 10 times higher quality for 20% lower cost than those plants in low wage countries.

Without getting too far into the story, which will also be told in my forthcoming book, the secret to the success of this plant lies in the technology employed in the product and process and in the ability of the workforce to upgrade its skills to meet the challenge of the new technology.

The factory requires a mass automated machining of metal parts to tolerances which are less than 1/100 of a human hair. The machinery required to do that consistently was difficult to develop and is equally difficult to set up, run and maintain.

G.E. decided to use its existing workforce in Columbia Tennessee to operate the factory. They built a $2 million training center in the factory to train workers to run it. Most of the workers were at best high school graduates and were unskilled. G.E. offered to train them but it would have to be on their own time after work. Nor would there be any guarantees of promotion. That would depend on how they performed.

They would have to put in between 120 and 400 hours in classrooms, labs and computer stations. Many predicted that the workers would never volunteer.

In fact, the workers lined up in droves to apply. In the first year of the training center, the workers of G.E. Columbia spent over 50,000 hours, all on their own time learning new skills.

The training manager of the plant who initially doubted that workers would volunteer said he had learned a lesson from the experience - "give an American worker an opportunity, and he'll sacrifice for new skills."

Now a production worker who used to put four screws into the case of an air-conditioner 712 times each day, oversees a $700K synchronous machine with 12 different stations. Another worker who put clips on wires over and over again each day now operates a computer terminal making adjustments to control mechanisms to ensure the quality of the compressor.

In my 14 years of industrial experience around the world, I have seen examples like this many times. Not enough of them have been in America. But there can be enough if we make it a national commitment.

I recommend to this committee that it undertake a careful study to develop in cooperation with industry, pilot programs in this country to address the following types of needs.

- a remedial program to erradicate the functional illiteracy in reading and math which plagues 30% of our existing adult workforce;
- sponsorship of joint industry/higher education partnerships to provide programs for skills upgrading in manufacturing technology for line workers, technicians and industrial engineers;
- sponsorship and incentive funding of state and local programs to encourage in-factory training programs to upgrade skills within the factory environment;
- sponsorship and incentive financing to industry associations to develop cross company training courses for workers and lower and middle management personnel in these industries.

Programs such as these have had a high degree of success in many countries in the world and would work well in the United States. They can be administered locally by companies, educational institutions and local economic development authorities. The federal government must play a role by providing political leadership and providing financial incentives to stimulate the process.

The only way we will be able to maintain a $9-10 average wage in a world where people are working for $1-2 an hour is if we can work smarter than they can.

Doing so requires a leading technology base, a push for new product development, and a will to export. But it also requires, perhaps most fundamentally, an educated workforce constantly at the cutting edge of the skills needed to operate modern production systems whether in the factory or the office.

We have our high living standard because our fathers and mothers built a highly productive economy. We have sustained our high living standard during this decade mainly by borrowing over $500 billion from abroad and spending 97% of it to have a good time.

We have no inherent right to that high living standard. We have to keep earning it. If we can't maintain a higher skill base than the Singapores of the world, it is only a matter of time before that living standard will be run into the ground.

They are working hard to build their skill base. We must work equally as hard to constantly regenerate ours, or we will leave our children not only with a huge international financial debt to pay - a seeming certainty - but also we will leave them lacking in the skills necessary to earn the income to pay it.

Representative SCHEUER. We will hear now from Marc Tucker, executive director of the Carnegie Forum on Education and the Economy.

## STATEMENT OF MARC S. TUCKER, EXECUTIVE DIRECTOR, CARNEGIE FORUM ON EDUCATION AND THE ECONOMY

Mr. TUCKER. I would like to begin by thanking you very much for the opportunity to work with you and your staff on this set of hearings. It has been both a pleasure and a real privilege.

Representative SCHEUER. Well, I said before, and I will repeat it, we owe a very great deal to you for the design of these hearings, the selection of the witnesses, and development of the intellectual concept that drove this set of hearings. I can't overstate the debt that we owe you. It has been a privilege working with you and a pleasure working with you to boot.

Please continue.

Mr. TUCKER. I want to spend a minute on what I take to be the nature of the problems we face, though I can add very little to what Ira Magaziner just said. Then I want to take another couple of minutes to talk about some things the Federal Government might do about those problems.

I want to start by taking issue a bit with Governor DiPrete. Governor DiPrete said somewhere along the way, if I heard him rightly, that the problem is that the kids in his State aren't learning the basic skills the way they used to, and he laid that problem at the feet of permissiveness of the educators, particularly during the late 1960's, I presume, and during the 1970's. If one were listening carefully to what Ira Magaziner just said, it is clear that this country has got to justify why it is that our line workers are being paid now 4, 5, 8, and even 10 times as much as the competition in places like South Korea, Singapore, Thailand, Hong Kong, and Taiwan—when in fact, the people in those countries often have a better education than we do.

Why should consumers and employers, the world over, pay our line workers, 4, 8, even 10 times as much than they are required to pay to the competition, when the competition is often more skilled than we? The answer to the question is, they won't. They simply won't, for very long. And so we really have two choices. We can either struggle to be as well educated as the competitors——

Representative SCHEUER. Or better.

Mr. TUCKER [continuing]. And earn as much as they do, that is, $2.20 an hour, were we to be as well educated as they, which we are not. Or we could try and do what Ray Marshall suggested, which is to be and remain one of the world's high-wage economies. If we are to do that, if we are to justify those kinds of wage differentials, we have got to be not only as well educated as the Singaporans are, which is a real challenge to us right now, but vastly better educated, just to justify those wage differentials.

Those really are the two choices. To have a high wage economy, and totally change our conception about what being well educated means as a society—or compete with those folks on equal terms and cut our wages by 4 times, 6 times, 7 times, even 10 times.

That is the challenge. It is simply not the case that the problem we face is that education standards have fallen in this country. It is not the case that the permissiveness of the seventies is responsible for the problems we face. The fact is that our education system, on balance, is performing about as well now as it was 10 or 20 years ago.

Representative SCHEUER. But the demands have increased.

Mr. TUCKER. The demands have wholly changed, and what America has got to understand is that the standards that were in place 5 years ago, 10 years ago, 20 years ago and 30 years ago in this country, are utterly irrelevant. We are going to have a tremendous slide in standard of living, in the quality of life in this country, unless we do vastly better than we have ever done before in our schools.

And I am here specifically talking not about the best and the brightest, not about the engineers and the managers, but the ordinary line workers in our society. That is who we are talking about.

What happened in the seventies is utterly irrelevant. It is what happens in the late eighties and the nineties that matters.

Now let me move from there directly to the Federal role in education. You asked earlier what we can do about a system which seems almost moribund, almost wholly resistant to change.

Representative SCHEUER. You are talking about the elementary and secondary education.

Mr. TUCKER. That is right. Let me just make another comment in transition, which is this.

If you come to the conclusion that the only way that we can justify the relative high wages that we have now in the world scene is by having a very highly skilled work force, then you have to come to two conclusions right after that about education.

One is that there is a vast number, probably a majority, of line workers in the United States right now, who cannot justify the wages that they hold, unless they become very much better educated, quickly. That is, by far, the most urgent problem we face, the people who are right there in the work force now.

The second conclusion that you come to is that we have to wholly change our notion of what appropriate goals are with respect to the schools. So there are two arenas, then for Federal policy: Federal policy with respect to elementary and secondary education, and Federal policy with respect to the people now in the work force.

Let me take them in that order.

The Federal role in education, as it is now conceived, is really the product of the Kennedy, Johnson, and Nixon administrations. That is, our modern conception of the Federal role was really formed and refined in those three administrations. It is founded, basically, on a simple conception: the system that we use to provide educational services to students is fundamentally in good shape. The problem is that some people have been left out. They aren't getting the services that the system can provide.

The solution to that has been an entitlement system from the very early grades right up through college and beyond. That is, if the problem is that some people don't have access to a system that works, then the answer is to provide access, by putting in their hands resources to make access possible. I really believe, in having said that, that I have summed up at least 90 percent of our shared conception of what the Federal role in education is and ought to be.

Now the picture I just presented is, in my view, a very different world. I think we can agree that the system isn't performing very well. The problem is not simply that some people are left out. It is that what they get when the get access isn't up to snuff.

What the Federal Government, in my view, ought to do now is not retreat 1 inch with respect to equity, but move forward a lot with respect to focusing on the central problem in our schools, which is that we have to get much more performance for the dollar than we have ever gotten before. We have to concentrate on ways in which the Federal Government can exercise its influence, which goes way beyond the money it puts in, to greatly improve the performance of our schools.

That is a very different problem than our current Federal role in education was ever meant to deal with.

Now I don't know yet, and I don't think anybody does, how you would frame, specifically, Federal programs to meet that objective, but there are certainly some obvious clues in place. One of them, for example, is to ask, wouldn't it be better if we said the Federal Government, while continuing to emphasize the needs of kids who are most in need, will give incentive funds to the States, localities and especially to those schools that do the best job in meeting the needs of those kids.

Right now, the way we have structured the system, the money that the district gets, that the State gets, that the school gets, is solely a function of the characteristics of the kid. It makes no difference whether the service delivered meets a need or doesn't, whether the kid's performance improves or stays still. As a matter of fact, the way we have structured the system, if a kid is learning disabled, the system gets money to deal with those problems. But if the kid is no longer learning disabled, the system loses the money. So what incentive does the system have to address the needs of the kid? Probably none.

What is essential, in my view, is to say to those districts out there, the better the job you do in meeting the needs of the kids who need our help most, the more you are going to get. And if you aren't doing the job, the less you are going to get.

That is a wholly different view of the Federal role. Continue to concentrate on the kids who need it most, but put incentives in there, which is what Ray Marshall concentrated on, for performance, for doing the job, for meeting the needs of the kid. I believe that we can and should restructure the Federal role in education around that simple concept of tying funds to performance.

The second point I want to make has to do with the people who are now in the work force. Again, come back to the way we think about the Federal role. If you look at the Federal role now with respect to people in the work force, you get money out of the Federal Government for continued education training and retraining only if you are desperately disadvantaged or if you are planning on going on to college.

Who that leaves out are the people I was describing, the millions of line workers whose needs are being addressed, as Ira Magaziner just described, in Singapore, but are not being addressed here in the United States. We have no policies to meet these needs.

In contrast, if I may say so, to West Germany. You mentioned, Mr. Chairman, that in your view, one of the most successful Federal programs that has ever been invented for education is the GI bill, with which I happen to agree.

Representative SCHEUER. Headstart.

Mr. TUCKER. That is the other. You are not the only one to observe the success of the GI bill. The West Germans took a substantial interest in the success of the GI bill, and in a deliberative effort to model a piece of Federal legislation, Federal Germany, using the GI bill as a model, created the Employment Services in Germany. To finance it, they set up a trust fund, which is funded by a tax, equal on employees and employers, on most German firms. The money is deposited in a fund, the expenditures of which are supervised, equally, by a tripartite group made up of representatives of employers, representatives of labor, and representatives of government. The money is used for the unemployment insurance system, for the vocational counseling system and for a very comprehensive system of education, training, and retraining.

And it is just as you were saying earlier. That money can be used, and often is, to cover, as it was in the GI bill, the full costs of texts, the full cost of tuition. It will even cover the full costs of residence away from your home, if it is determined that that is what you need, and, critically important for people who are employed, it will cover up to 70 percent of your last previous salary, if what you require is extended full-time education and training. So you don't have to get yourself educated and trained at the expense of meeting your family's needs. There is nothing comparable in the United States to a program of that sort.

My general view is the same as Pat Choate's. I am really almost indifferent whether you use a system like the Germans use or some of the others that have been advocated here in the United States. We desperately need a comprehensive program in this country addressed to the needs of people who are now in the work force for education, training, and retraining. It has got to be tightly integrated with the Unemployment Insurance Program, the Employment Referral and Counseling Program. They have ways to do that in West Germany that make some sense to me. Perhaps we need others that are better adapted to our circumstances.

We need something, and we don't have it now. It needs to be on a very large scale, which is why a trust fund appeals to me. There is no way I can see in the current fiscal circumstances this government faces right now to fund it out of general funds.

Thank you, Mr. Chairman.

Representative SCHEUER. Thank you, Mr. Tucker.

[The prepared statement of Mr. Tucker follows:]

## PREPARED STATEMENT OF MARC S. TUCKER

I would like to begin by expressing my appreciation to you, Chairman Scheuer, for the opportunity to assist you in preparing this series of hearings. Secretary Brock began his remarks by saying that, in his view, nothing the Congress was doing was more significant for the future of the American people than these hearings. The Secretary was not exaggerating. That you should choose this topic for the inaugural subject of your subcommittee speaks volumes about your own vision.

I trust that, in time, the American people will come to agree with Secretary Brock and find their own way of expressing their appreciation to you for what you are doing here. For my own part, I would like to say for the record working with you and your staff, especially Debbie Matz, has been both a rare pleasure and a privilege.

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Education, training and retraining are hardly new topics for the Congress. What is significant here is your understanding that the view that the country has taken of these functions in the past is wholely inadequate to the situation the country now faces.

A few years ago, when the National Commission on Excellence in Education released A Nation at Risk, the message went out to the American people that their schools had become bastions of mediocrity. The academic performance of American children had plummeted, it said. Policymakers, hearing that standards had slipped badly, decided to get tough, to restore the standards that had once earned this country a reputation for having one of the finest education systems in the world.

All of which served an important function of directing American's attention to the quality of their schools, but did tremendous damage in other vital respects. Careful analysis of the data show that the Commission misunderstood the problem, and, for that reason, looked for solutions in the wrong directions.

On balance, it is hard to make a case that the performance of America's students has declined overall in the last twenty years. What the record shows is that the performance of high school students on some important measures declined and the performance of students in the lower grades, particularly students from minority and low income families, improved substantially.

But that is all beside the point. What is critically important is that the performance of schools and students overall has changed little in the last twenty years. The problem is not that performance has slid. It is that performance has not even begun to keep pace with the steeply rising skill requirements imposed by fundamental changes in the structure of the world economy.

The result is that millions of experienced American line workers lack the skills they need to justify their wages, millions of new entrants are joining their ranks every year, and millions of others who leave school cannot justify even minimum wages in terms of what they know and are able to do, and so become members of the permanent underclass as they start life.

The central problem with which these hearings are dealing is that the line workers in the American economy are badly undereducated. There is no national policy to deal with this problem. If we do not create one, the nation will become steadily poorer.

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The Carnegie Forum's report, A Nation Prepared: Teachers for the 21st Century, begins with a simple example to illustrate the problem. Located right outside Seoul, Korea, the Samsung Electronics plant produces home video recorders for sale in the United States. The line workers in that plant work 363 days a year, 12 hours a day. They make $3,000 a year. They are as well or better educated than typical American workers who do the same sort of work.

American firms whose low-skilled and semi-skilled workers comprise a significant part of their cost structure cannot compete with firms like Samsung. To stay in business, they must either automate those jobs or export them to low wage countries like South Korea. The alternative to the massive disappearance of low-skilled and semi-skilled jobs in America is to lower our wage rates for such jobs until they equal those of our low-wage competitors. The alternative to a high-skill, high wage economy is a steady decline in our standard of living. The clear message is that America must leave the routine work of the world to others. We must become a nation that thinks for a living.

The task is enormous. The drop out rate in South Korea is lower than it has ever been in the United States and the literacy rate there is higher. Much the same can be said of other Pacific Rim countries that charge low wages for their labor. So, we would have to do better than we have ever done in our schools just to stand a chance of having our line workers make $3,000 a year when the dust settles. To maintain our current wage rates will require that we meet vastly higher educational standards for the great mass of students in our schools and for the line workers now in our work force.

What do I mean by vastly higher standards? It comes down to this. Our workers will have to be able to communicate complex ideas to other people in a compelling way. They will have to have strong analytical capacities. Perhaps most important, they will have to be able to think conceptually. They will have to really understand the subjects they have studied, a kind of understanding that goes far beyond being able to parrot dictionary definitions of words and remember formulas, the kind of understanding that enables application of knowledge to problems one has never seen before, problems that do not have single right answers. They will have to be genuinely creative and imaginative. They will have to be able to work without detailed directions from others, often in teams with others, a big challenge to an education system that has always defined collaboration as cheating.

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In a nutshell, we now have to provide to our line workers a kind and quality of education that we have, until now, reserved for a fairly small elite in our society. We have got to cure illiteracy, but that will not be enough. We have got to make sure that everyone has the basic skills, but that will not be enough. Only the skills I have just described will do the job.

We laid out in A Nation Prepared: Teachers for the 21st Century a detailed strategy for changing the fundamental structure of our schools to position them to meet the challenge I have just described. Nothing less than fundamental restructuring will do. At the beginning of this century, our schools were structured to meet the needs of a smokestack economy. They did that job brilliantly. The problem is that they are still structured to do that job, although the requirements have drastically changed. Other witnesses will describe the key features of that report, so I will not rehearse them here.

* * * * *

What I want to concentrate on is another challenge, one that has gone largely unrecognized until now. There are millions of line workers in our factories, mills, and service establishments, as well as in the unemployment lines, who lack the skills required to justify their wage levels in an international market for low-skilled and semi-skilled labor. If those skill levels are not raised a lot, and fast, wages will steadily fall.

It is an odd thing. Once American workers leave high school, whether they graduate or not, national policy provides aid for further education only if they are severely disadvantaged or if they go to college. The tens of millions of Americans who are not severely disadvantaged or interested in going to college are the forgotten Americans. The assumption is that they merely need to be trained to do the work that is available.

But that is simply not true. They never received the education that they now need, without which it is simply uneconomical to train them. The less education a person has, the higher the cost of training them. Imagine a firm that has the choice of automating a job, exporting it to another country, or training the people that are available. If the cost of training is much higher than the cost of the other two alternatives, then the firm has little choice but to export or automate the job. That is exactly what is happening all over the United States.

Most firms cannot be expected to bear the cost of educating their workers without external aid. The reason is very simple. If they invest a dollar in plant and equipment, that investment stays with the firm. If they invest the same dollar in the broad skills of a worker, that worker can leave the next day and take the value of that investment to another employer, possibly a competitor. Why should any firm educate its competitor's employees. Narrow training is another matter. If an employee is trained to repair a firm's specific products, for example, then the skill that employee has is of no value to another employer.

The country as a whole, and all employers as a group, benefit a lot, then, from higher levels of education among all line workers, but it is in the interest of no individual employer to invest very much in educating their workers. The only way the investment will be made is if the country as a whole, through its government, decides to make the investment. That is why these hearings are so important.

Typically, when government provides educational aid to individuals, it does so on the assumption that the problem is access and the solution is money for tuition and related expenses. The problem here is much more complicated. Many companies have tuition refund programs that are 95% underutilized. There are problems of financing, but they are only part of the large problem.

I can illustrate the point best by telling a story. Almost twenty five years ago, I had the good fortune to watch a training film made by Edwin Land, President of the Polaroid Company. The purpose of the film was to tell new employees about his philosophy of the company. Polaroid, Land said, was in business to turn the science-based ideas coming out of its laboratories into products that would be irresistible to consumers. The ideas for new products would be incorporated into designs that would be proved out on experimental production lines. When the engineers had satisfied themselves that they knew how to make the product efficiently and reliably, the experimental production line would be broken down and another set up in its place. Polaroid, said Land, was not in the production business. Its products could be made much more cheaply in the Pacific Basin where labor was a lot cheaper, so firms in those countries would be licensed to make Polaroid products, which Polaroid would then market worldwide. (All this in the early 60's!) Polaroid's real asset, according to Land, the only one that mattered, was its people, their skills, abilities and commitment.

Many executives have said words like that. Few have had Land's tenacious conviction of their importance. His vision encountered real problems right from the beginning. It proved very hard to recruit competent blue collar workers for his experimental production lines, because he could rarely offer more than 12 months work. The next production line required somewhat different skills, and the cost of training these workers for the new tasks was prohibitive, because they had been so badly educated in the first place. Land had the wit to understand that he could solve his problem openly by giving these workers the education they had never received in school.

So he reached out to the educational institutions of the Boston area for help. Although he offered to pay well, none were interested in the problem of educating blue collar workers.

Undaunted, Land recruited a band of extremely capable school teachers who were intrigued by the challenge that Polaroid offered. They quickly found that school, for these workers, held no charms at all. They had never done very well at it and were simply horrified at the prospect of failing again in front of their co-workers.

So the teachers created a curriculum out of NASA films, newspaper articles, and other unconventional materials. They organized the classes into seminars and bull sessions, anything but the usual classroom setting. Eventually, they hit on approaches to curriculum and classroom organization that appealed to the workers, most of whom, eventually, were hooked.

Which led to the next crisis. In time, the workers ended up spending substantial time in the evenings and on weekends studying at home. They stopped going out for Wednesday night bowling with the old gang, drifted away from the crowd that watched NFL football together, and were unavailable to go to the mall with friends and family. Spouses and old friends complained that these new book worms were "too good for them," and great strains in these relationships festered and grew. Workers started to drop out of the program.

Land was not to be defeated. He hired a staff of social workers to go out into the community and talk with workers, friends and families. In time, they turned things around and the program was back on its feet. The workers made steady progress, learning things they had thought they could never learn, and enjoying it immensely. They saw possibilities in front of them that they had never dared dream of before.

Which led to yet another problem. Their supervisors and those in middle management still saw these workers as the same old dummies who had to be told just what to do and how to do it. The workers came to see that the new opportunities they thought they had would come to nothing because their supervisors would treat them no differently in the future than they had in the past. They felt betrayed, and, seeing little point in continuing, once again began to drop out of the program.

So Land stepped in again. He hired a team of organizational development experts. To make sure that the managers understood that he was serious, he had this team report to the Executive Vice-President, at the top of the company. Then, leaving nothing to chance, he made it clear that managers' performance evaluations would be based in part on the degree to which they created promotional opportunities for line workers who were successful participants in the education program. Even more important, he told his managers that he expected them to start reorganizing their operations to take advantage of the steadily increasing numbers of better educated line workers.

A few years after Polaroid began this program, I met a young Black woman who had barely made it through high school in an impoverished section of Boston. She joined Polaroid to work on the line, and became involved in the education program. At the time I met her, she was enrolled in a Masters degree program in chemistry at Northeastern University, and was a lab technician at Polaroid. Immensely proud of her accomplishments, she clearly felt a sense of limitless possibilities for a life that had at one time had a very short horizon.

This story should make it abundantly clear that making money available to traditional educational institutions to provide conventional programs to line workers is not likely to accomplish very much. Nor will it be very useful to give that money directly to the line workers, enabling them to rush off to the nearest provider of those same services. They will not rush off, and even if they did, the result is likely to be very disappointing.

Some means must be found to involve leaders from business, labor and government in defining a new education standard for line workers, a standard well above the now obsolete basic skills standard. This should be a standard which, if met, would make it worthwhile for employers to train employees to meet their needs rather than exporting those jobs or automating them out of existence.

Then, federal and state governments, working together, should make funds available in the form of vouchers to workers to enable them to meet this standard. But the funds should be translatable into cash only if the supplier of the educational services actually succeeds in bringing the client up to the standard. There would be no reward for time spent in the seat, only for actual results. This would put strong pressure on the suppliers of such services to act as Edwin Land acted, to put together whatever combination of services is actually required to do the job, departing from conventional practice whenever conventional practice will not deliver the goods. Any and all educational suppliers should be able to compete for these dollars, from universities to public schools, from unions to employers, from state agencies to community groups. No one need fear that the fly-by-nighters and shoddy operators would invade this market, because they could not make money in a pay-by-results system.

The West German government funds its continuing education, training and retraining program by a tax on employers and employees, which then goes to an independent agency governed, in equal measure, by representatives of management, labor and government. The staff of this agency then administers the funds to individuals, determining benefits on a case-by-case basis. The same agency administers the unemployment insurance fund, enabling it to coordinate decisions on income support with decisions on further education, training and retraining. Funds are available to cover the costs of tuition, books and supplies, room and board if the training must be residential, and income support, thereby enabling members of the West German workforce to support their families while engaged in full time education and training, a provision that has no parallel in American policy.

The West Germans and the Japanese are America's most formidable competitors. It is no accident, in my view that these two countries have long held the view, and acted on it, that the skills of their workforce are their single most important source of competitive advantage.  Surely it is time we followed suit.

Representative SCHEUER. We will now hear from our last witness, Ralph Lieber, Superintendent of Schools in Columbus, IN. He is an education reformer, and he will tell us about the reforms that he has implemented, as well as the reaction to these reforms by parents and students.

We are very happy to have you with us.

## STATEMENT OF RALPH LIEBER, SUPERINTENDENT, BARTHOLOMEW CONSOLIDATED SCHOOL CORP., COLUMBUS, IN

Mr. LIEBER. Thank you, Mr. Chairman. I really appreciate the opportunity of being here today. And thank you, Marc Tucker, for a nice introduction, in a sense, when you talked about incentives and performance and then the other people that appeared before you today that also spoke of incentives and the need to inculcate technology more rapidly into our public school system.

Marc Tucker speaks from commission's point of view. There are many, many commissions that have taken place, there have been Governors and conferences. We have heard a report today. All are suggesting new programs, many fine new programs to be laid on public education. Some have even been brave enough to suggest the restructuring of public education. And I think that you implied that when you challenged us earlier today to come up and stand tall, if you will, in a restructuring of public education.

Representative SCHEUER. And to tell us about how you perceive the Federal role in encouraging and stimulating and enhancing that process.

Mr. LIEBER. I shall. I will conclude, if it is all right with you. I will conclude with that suggestion.

What I wanted to do to ensure you that this is a systems approach, I am merely going to take components of a system, but I do want to assure you that in order for change to take place, you can't take bits and pieces. It has to be a total systems approach, or it won't work. Too frequently, we have tended to take bits and pieces and apply them to education and wonder then why haven't they worked.

My concern is that the current establishment, the current structure of education is more than 140 years old, and it has adapted itself to what many others have said, a smokestack society, an industrial age, a bureaucracy based on a hierarchy of organizations, if you will, as opposed to one that is going to adapt itself to an international economy, to a service-oriented economy.

This we haven't done. Therefore, what we find school systems doing, and will continue to do is to chase—because they are evolving slowly because of the suggested programs, is to chase the changes that are occurring in our society but never solving the problems that exist in the constantly evolving society, just as we have mentioned today, just as Marc Tucker and Mr. Magaziner, I think, have identified some of the concerns that face our society today, and yet we fail to be adaptive.

I don't need to go into it. I know that you are very—very much aware of it.

So what I would like to suggest is a restructuring of public education, a major restructuring. A fellow from the Sloan Institute, under the auspices of MIT, has said, if you see problems that are constantly cycling in and out of a system of an organization, and you feel that people have worked hard, and that you have reasonably intelligent people within an organization, and I feel that is the case, as far as—and I can only speak of public education—as far as public education, then perhaps it isn't the people that you need to concern yourself with, but the nature, the structure of the organization. And therefore, I want to underscore the need for restructuring public education.

The first thing I would like to do is recognize—it sounds simple, but it is very complex sometimes, to recognize that public schools are, in fact, a public agency serving the public. And perhaps I could invite a hand raising behind me, if those in the audience are listening, to reconform what I say, but if I were to ask you, Mr. Chairman, have you ever gone to different supermarkets, have you ever selected different supermarkets to shop in? You would probably say yes. If I asked you if you went to different barbershops, you would probably say yes. And I imagine the audience would too. If I suggested, have you selected different medical practitioners, yes. Attorneys, perhaps so.

Have you had the opportunity, as a parent, when your youngsters supposedly were in public schools, to select the school of your choice?

Representative SCHEUER. Yes.

Mr. LIEBER. Well, then, you were very lucky, because——

Representative SCHEUER. They weren't public schools. They were private schools.

Mr. LIEBER. OK. That is a difference. I was speaking of public schools. If you were in a public school setting, perhaps 5 out of 100 parents might raise their hand indicating that they had an opportunity to select the school of their choice. Usually, it is the neighborhood school. They don't have to think about education. They think only of the convenience. It is the school down the street, as oppose to begin a market focus, to have schools within a public setting stand for something that might be distinctly different than another elementary school or secondary school. They still can teach the comprehensive curriculum, if you will, but through a specific focus, and I, as a parent, will have the option to chose. If I went further, and I said how many people had the option, as a public institution, to choose their teacher, fewer yet would be able to raise his or her respective hand.

So what I am saying is that here we are a public institution and our ability to respond to our clients, the public, is extremely minimal because of the bureaucracy and the nature, the way that we have formed.

And second, I would suggest that we begin to look at the services, very simply, the services of the public school and who delivers those services. And in as primary terms as possible, we in public education have two services. One is instruction and the other is curriculum or the experiences that youngsters have under the auspices of the school.

When we begin to ask the question, who delivers those services, we say the teacher. And who is the person with the least amount of authority in the public schools and often the least paid? It is the teacher, the same person that is primarily responsible for delivering the services.

Why is that the case? Because we are in a pyramid system of organization. A superintendent, like myself, is often looked to as "the most important" and certainly becomes the best paid person in the system, as opposed to turning the system upside down and restructuring it, so that the teacher is the most important person and has the authority and the accountability and the remuneration necessary.

Our systems are laden with disincentives. An example, a very nice example would be, if we wanted to recognize a teacher, we would say, "Mrs. Jones, you are a wonderful teacher. You have 25 kids in your class. Four more have moved in. We would like you to take this four, because you are the most competitive person in the system to handle those four additional kids." What would the teacher say, "You got to be kidding. That is not a recognition of my teaching quality. You are making me work harder."

Now how can we turn that disincentive around and make it an incentive?

And what I would like to suggest is that we create a market-driven system, wherein people hang up their private practitioner shingle within a public school setting, or as colleagues band together and hang out their private practitioner shingle, creating an educational clinic, and that they are paid, based on the number of young people they serve. Now being a system, there are lots of components, such as different kinds of testing, so you, as a parent, would know which teacher you wanted for your child. Would you want teacher A, who might have 9½ months of gain, educational gain and a 9½-month period of time, if we used mathematics on a national test. We want to use other kinds of testing criteria. We certainly want to use self-concept, self-renewal, et cetera. But why are you selecting a particular teacher? Well, we would like to be able to give you, if you wanted to select teacher A, because they have 9½ months gain score in a 9½-month period of time, wonderful.

Maybe you want to select a task master over here, teacher B, who gets 15 months gain score in a 9½-month period of time; however, perhaps if your child has a fragile self-concept, that wouldn't be the appropriate teacher.

And teacher C may be wonderful, as far as helping a student's self-concept but doesn't get perhaps but 8 months gain score.

Now which one do you want to select? And you can have a choice, but you have that information.

If I were to ask you now—if I asked you the question, what is your doctor's kill ratio, you wouldn't be able to answer.

Representative SCHEUER. What is my doctor's?

Mr. LIEBER. Kill ratio. His win-loss with his patients.

Representative SCHEUER. Well, as a matter of fact, wearing another hat, as chairman of a Health Subcommittee, I am now developing legislation that will inform health consumers about the kill ratio of health providers——

Mr. LIEBER. Precisely.

Representative SCHEUER [continuing]. And not only doctors but facilities and hospitals as well. We would be informed by what their record is, in terms of malpractice awards against them, how many times they have been fired from hospitals and why, how many times have they lost their licenses, and what is their level of iatrogenesis? That means physician error. It is a fancy way of saying a foul-up, a real gross pilot error on the part of the health professional.

Also, what is their rate of nosocomial infections? That is a disease that you pick up in the hospital, courtesy of the hospital. You didn't bring it to the hospital. You found it there and brought it home. There are 20,000 people a year who die from diseases that they picked up in the hospital when they went to the hospital to improve their health.

So this would be a way of empowering health consumers to know which health providers, both hospitals and doctors, would enhance their health prospects and which ones would seriously endanger their health prospects. And I will be happy to send you information, as this process develops. We have already had a great deal of help from the Federal Government and within 6 months we will be introducing legislation and having hearings.

Mr. LIEBER. I am suggesting virtually the same thing, so we can make a consumer, a wise choice. And then we would perhaps help that individual again through a systems approach by creating a counselor/ombudsman that could help interpret test data, help interpret the information to many parents who perhaps don't understand it well enough, so they can make wise decisions, not only of the school but of their teacher or the clinic, the group of teachers that would band together. Not only would they have that kind of information, but we might begin to even be smarter in education and matching learning styles of the student with instructional styles of the teachers.

We might also look at the efficiency of technology. If I wanted to select, let's say, Mrs. Fourth Grade Teacher, and she has 70 youngsters in the class, she might not be as appealing to me as a teacher as the one over there with 12. However, if Mrs. Fourth Grade Teacher were smart, she would say, "Well, I am going to introduce technology at a more rapid rate, because that becomes another potential teaching station, or I might begin to hire support personnel, people to work with me in that environment," creating a cottage industry within a public setting, so that her experience and talent and leadership will be that which I select.

Therefore, it is a very strong market-driven system within the public setting. It does impact, if you will, on the "3 R's" of motivation. It deals with remuneration, and it deals with recognition and it deals with responsibility.

That is left out of the structure of American public education today. Recognition, responsibility, and remuneration.

If we create a system which is market driven, teacher entrepreneurial, if you will, what we will have is one that recognizes a teacher because of the number of youngsters. Every time you recognize that teacher, it is a system of reward, because they, in fact, are rewarded through your recognition.

And then, last, it is a system of responsibility, because they no longer need to have a principal or other kinds of administrators acting in their current role. They are, in fact, controlling their own educational environment under a broad umbrella of what is a school system, which has a well-designed learner outcome curriculum. So it doesn't matter which teacher—a direction, a focus of a school corporation, a school system.

So they work within a system, but they are brokers or private practitioners.

As I listened to the various testimony today, I kept trying to apply this system as to the issues that were raised, and I feel that it is so much more responsive and flexible and capable of responding to some of the views raised by the two gentlemen now and the Governors and the former Secretary of Labor, that it has that kind of opportunity.

You asked lastly, and I will conclude, what can the Federal Government do? I have been trying to do this, by the way, in my own school corporation. I do run into resistance, not from parents, not from businessmen, primarily from teacher organizations that are fearful that it is going to destroy the organization, which it will not.

I could tell you the story of educating kids at no greater cost and perhaps easier costs, but no greater costs, but vastly improved services.

Representative SCHEUER. Well, tell us.

Mr. LIEBER. We created an entrepreneurial summer school, where we said to the teacher, as long as they are consistent with the district's overall learner outcomes and well-publicized information in our regulation brochures, you can have space within the public school system, using the public facilities, and we will charge you a 10-percent override fee. You charge the youngsters a reasonable cost, because you are getting so much free space and everything else, and if you do that, then, of course, you can't exist.

Representative SCHEUER. Now have you restructured your school system along these lines?

Mr. LIEBER. Our summer school is that way.

Representative SCHEUER. How about the main school?

Mr. LIEBER. The main school year we have tried to create some models. I have tried to have the teacher organization bite into it, if you will, or be participants in its development. I'm happy to modify it in any way.

Representative SCHEUER. The ideas you're talking about are intriguing but I'd like to see a model of where it has worked and what the Federal role would be in stimulating this kind of restructuring. We've got so many programs that have probably worked that we haven't really applied. I'm suggesting the Job Corps, Headstart, Follow-Through—any number of other innovative programs that the Federal Government has sponsored through the Elementary and Secondary Education Act that have probably worked. One might make the case, if you have extra funds and you want school systems to change, probably the best way to get them to change is to show them how to use things that have worked in the past for many, many schools districts in 3,000 counties in the United States rather than trying to force them or provide incentives for them to try unproven, untested paths.

There's a place for innovation it seems to me, but when the Federal Government is trying to do something as fundamental as get school systems to restructure themselves and when you're dealing with an institution as probably inflexible and incapable of changing to meet modern needs as the average elementary and secondary school system, I just wonder whether we have the time to try your philosophical approach of restructuring schools, absent some track record somewhere.

Mr. LIEBER. If I might respond, my suggestions would run from the very simple to the more complex. The very simple would be to have young people entering the field of education now take a series of risk-management courses through business schools. The problem is the attitude of people coming into the field of education perpetuate, if you will. If they don't have it when they enter, they will shortly after they enter the field of education, to be, in a sense, very socialistic. It's a socialistic system. I know that sounds terrible, but it is a socialistic system. But to develop that type of non-risk oriented mindset, it's the exceptional person who will become the risk taker.

So one step would be to develop or have people begin to see opportunities associated with risk.

Second, would be a little bit more sophisticated models, begin to offer four or five academies for training sessions throughout the United States on a whole host of new models in education that are risk-oriented models, keeping the focus very tight because we could all create all types of models, but I'm suggesting a very tight focus of models. It could be developed. People could be brought in to begin the conversation. There's a few people talking about this now. A couple of fellows at Brookings Institute, a friend of Marc Tucker's in Minnesota, a friend of mine in Washington. There's almost no conversation occurring like this in this country—believers, if you will, so they are willing to try.

The third level is a more sophisticated level and that would be to try three or four schools in the country, volunteers, if you will, have teachers volunteer to be in those schools, pay them accordingly, and establish test sites so people can extract the best results that occur within the test site. It won't happen in any public setting today because of the political negativism. I cannot get it done and I speak as many superintendents across the country speak.

Representative SCHEUER. You can't get it done in your school system?

Mr. LIEBER. Absolutely not, and I have been in Minnesota and Highland Park and I have tried in different States. There's going to have to be a force or a power or instrument greater than the local area in order for this kind of change to at least be tested and tried.

Thank you, Mr. Chairman.

Representative SCHEUER. Thank you, Mr. Lieber.

[The prepared statement of Mr. Lieber follows:]

## PREPARED STATEMENT OF RALPH LIEBER

The underpinning of a free democratic society, one capable of competing in the international economic arena, is a well-educated citizenry. A citizenry educated in content, in skill, and in application. To this end, America's public school system hasn't done too badly. Teachers are hard-working and overall well trained. Administrators, likewise, are hard-working and seek to achieve the mission of their local school system as do all the support personnel and as do Mr. and Mrs. John Doe who are caring people, intelligent, and often serve as elected members of the local board of education. If all this is true, which it is, what is the beef?

The beef is that we are not as productive in delivering effective education as we ought to be, especially when one hundred thirty billion dollars per year of this country's resources are being spent on public education.

Just as the American automobile industry improved car quality in a slow evolutionary manner, it wasn't until the force of international competition and federal regulation that there was a marked accelerated change in car design, safety, and air emissions quality. The same can be said for the public schools. As long as our country was on a "high" in international trade, we, as consumers could accept this slow evolutionary improvement in our educational system. But now, unless we want to assure our country and ourselves of a marked decline in our future standard of living, we must move education on to a new track of "accelerated change". A change that requires a major restructuring of public education. A change that recognizes that teachers are the ones who deliver the service of schools, i.e., instruction and educational experiences (curriculum) and a change that recognizes that parents and their children are the clients who seek an active role in the educational services to be delivered and the quality of those services.

National commission after commission have implied and sometimes directly stated the need for restructuring and for recognizing individual performance. What I am suggesting is a distinct means by which that can be and in part has been achieved in my school corporation. Teachers, as individuals, or in small self-selected collegial groups will "hang up their professional private practitioner shingle within the public school setting" and be selected by their clients (parents - students) based on their track record that will be judged against standardized tests, classroom developed tests, criterion-referenced tests, tests developed within a school corporation and other data the teacher would deem as essential. It would be well communicated to the parent and student. The parent and/or student would be assisted in their program and teacher selection by a counselor/ombudsman. The data would identify the average gain in student performance and in what types of students this gain has or hasn't occurred, change in attitudes towards self and towards school by the student and the acquisition of critical analysis skills, knowledge of content and application, etc. The comprehensiveness of this information would provide the potential client with more empirical data when selecting the teacher or "clinic" of teachers than when one chooses one's professional doctor or lawyer.

Creating a market-driven system will enable the parent to have a direct involvement through a studied choice in the education of their offspring and therefore, be more likely to support increased funding needs of public educational institutions. Further, family working lifestyles may be better accommodated as the group of educational colleagues react to a client selected system by changing school starting times to afternoons or evening starts and/or shifting the school year to possibly year round opportunities.

The status of the American public school teacher would rise as individual teachers or educational clinics of teachers have direct control of their time - starting school earlier or later in the day, moving to four days a week, or even working part-time. Having direct control of one's income which now shifts from a uniform salary schedule based on training and experience (neither of which have anything to do with the mission of schools, i.e., student acquisition of skills content and growth of self-esteem) to one based on the number of students served - with each student holding an in-house school-wide voucher that would be presented to the instructor or instructors of choice would, in turn, provide the professional teacher with choice. Those professionals wanting fewer students or who could only deal effectively with fewer students would make less money. Those who could work effectively with more students will, in turn, have larger incomes, and those who are in "an educational clinic setting" could have substantially more students as they work with their colleagues in team teaching settings and in utilizing a differentiated staffing concept. In the aforementioned professional practitioner environment, the three R's of motivation come into play. They are: remuneration, recognition, and responsibility. The effective excellent teacher is remunerated based on number of young people served. The teacher is recognized through client selection, and finally, the teacher or teachers are given broad responsibility for controlling their own educational setting.

Money can be redirected or saved as the educational bureaucracy is thinned. Action and decision-making will occur in and at the classroom level. School administrators will become more analgous to the hospital administrators attending to the delivery of service needs of the medical staff or, as in this case, the teaching staff. Public policy will still be set by legislatures and local boards of education as well as the school curriculum, the latter in conjunction with professional personnel.

Teachers who have fewer children than they would like may do well to do a market survey to determine why they are not being selected. Perhaps such a survey would result in their need to upgrade the recency of their training. Educational clinics (groups of colleagues) may do well by having a special educational focus or emphasis, i.e., math, science, the aesthetic arts, or by offering refurbishing classes for those needing special assistance.

I am convinced, after seeing the results of several summer school market driven programs, that such a restructuring will result in an even more effective educational institution and an appreciable rise in the status of the American public school teacher.

What can the Joint Economic Committee do?

- Require students in schools of education to take risk management courses and/or create a national academy for the training of educational professional practitioners - E.P.P. Programs
- Establish several E.P.P. schools for the purpose of observing, evaluating, modifying, and developing future public policy.

I thank the Joint Economic Committee for this opportunity.

Representative SCHEUER. Mr. Tucker, do you wish to comment?

Mr. TUCKER. It is interesting to me that the three Federal programs, that, by common agreement, are very effective, are all run outside the regular school program.

Representative SCHEUER. Well, the Headstart Program.

Mr. TUCKER. It wasn't really run within the regularly administered program of our schools.

Representative SCHEUER. Put in.

Mr. TUCKER. Yes. It was put in. It wasn't part of the regular program. The point that I am making is that I would agree with you it would be a great mistake for the Federal Government to mandate a particular form of restructuring. What it probably ought to do is create incentives that would make it worthwhile for people like Mr. Lieber to say to themselves, the only way I am going to get this money is if I find a way to do a better job for the students. I have got to reach out for ideas to get more performance out of my system, to become more efficient, or I am going to lose the opportunity provided by the Federal Government in this instance.

In other words, the thing to do is to provide incentives for districts themselves to reach out for new and better ideas about curricula, about structure, about organization.

Right now, the Government doesn't do that at all. It basically says it makes no difference whether the kids succeed or fail, whether you are efficient or not. You get the money because you have *x* number of kids with these characteristics in your district, succeed or fail.

I really believe that if we started to tie some part of Federal funding to efficiency and performance, by which I mean the performance of the kids—improvements in performance—then you would see lots of folks reaching for ideas of the kind that Mr. Lieber has just laid on the table, because that is the way to get ahead.

Representative SCHEUER. Do we have the ability to measure improved performance of kids sufficiently accurately so that teachers would accept that. Now you know Al Shanker has said for a long time that, in terms of measuring teacher performance and paying teacher incentives, based on their actual performance in moving kids ahead, that he would be willing to accept a philosophy like that whenever you could develop the measuring systems to do it.

Is this idea going to founder on the fact that it is an ephemeral thing, and there are all kinds of differences and these kids have unique problems, and so forth, and it is really impossible to measure?

Mr. TUCKER. Well, first of all, I don't think it is impossible to measure. I think, politically——

Representative SCHEUER. I am just setting up a straw horse for you.

Mr. TUCKER. No, no, no. I don't think it is a straw horse at all. What you are saying is what many, many people are saying in this country, that relating rewards to performance is a nice idea, but we can't measure performance. And I think, first of all, that is not true.

The second point I will make is that, politically, it is going to be very important to get the major groups involved in developing whatever the criteria are. In this case, teachers have to be involved in defining what the criteria for success are and in helping to shape the reward system that will be tied to those criteria. I don't think that is impossible either. In fact, there are examples around this country of places that have tried that and are making it work.

With respect to the criteria, when the Boston Compact started out, they had a lot of ideas about trying the rewards that business and industry in Boston would provide for increased achievement on the part of the kids. Then they realized that the first problem was that the kids weren't coming to school. If they aren't coming to school, they aren't going to achieve more. So they started out with an attendance measure. That is not complicated. You can find out whether the kids came to school or not. And they have moved beyond the attendance measures toward measures of achievement.

Representative SCHEUER. I think you would want to do better than just finding out how many days a kid warmed a seat.

Mr. TUCKER. Absolutely. That's right. Where I think we ought to go is exactly where the witnesses this morning said we ought to go, toward what the educators call higher order skills. In fact, we know quite a lot about how to measure such skills. That is what Lauren Resnick was talking about two hearings ago, precisely that, and she is probably one of this country's leading experts on it.

Let me put it this way. One of the single best measures of whether kids can think and reason well, is whether they can write an essay of reasonable length. In order to write a reasonably long essay that is half way compelling to another human being, you have to invoke a lot of skills, such as marshaling evidence, organizing ideas, presenting them sequentially, and so on. You can't do that well unless you have a lot of what the educators call higher order skills. And we know something about how to judge the merits of an essay.

It is not that hard. What I am really talking about here is that we are moving from the realm of the standardized norm referenced test, where there is one right answer to a fairly simple straightforward problem. To do the routine work of the world, those are the kinds of skills you have to have, the kind that are measured by standardized tests that are machine scored, where there is one right answer to the problem as given.

The world that was being described this morning, and that Ira Magaziner described earlier, is a world where there is not one right answer, where the world is more complicated than that, where you have to reason from incomplete data to a solution which is maybe better and maybe worse than another solution, but is not the only solution. When judging the work of a student with respect to criteria like that, you have to make a judgment. It is not something a machine can do. You have to take the overall pattern of work that the student has demonstrated and say, "How does this work compare other kids' work and to the nature of the task that has to be done, as a matter of judgment?"

That is what you do when you decide how good an essay is. No essay is either right or wrong. It is better or worse than another essay against a set of criteria.

In my view, we ought to be judging kids' work in mathematics in the same way. What we do mostly now is judge whether kids can do algorithms and get correct answers, do the fraction problem right, the log problem right, the quadratic equation problem right. Hand calculators can work those problems faster and more accurately than any human being can.

The thing the hand calculator can't do is set up the problem. The hand calculator can't look at the world and say, "Ah, this is a problem in mathematics. This is a quadratic equation problem." And punch in the right variable. That takes a human being. And that is exactly what the National Assessment of Educational Progress says our kids, across the board, are terrible at. It is just like the essay problem. You have to set in front of kids, as Ray Marshall was saying, real problems, not problems in the abstract, real problems and find out whether these kids, using what they know from mathematics, can interpret that problem in mathematical terms, to the point where they can turn it over to the hand calculator or the computer. This is a problem in quadratic equations, and here are the variables. Please solve it, machine.

Just like the essay.

And it turns out, usually, there is not one right answer. That is, there are several ways you can go about that problem from a mathematical standpoint. Some are a little more elegant than others. The same thing in science. These are judgments we know how to make about kids' performance. We are not making them now. We are investing an enormous amount of money and investing in determining their capacity to do the utterly routine work of the world. We are not investing our resources in getting good at finding out how these kids can do the work that does have to be done.

Representative SCHEUER. Well, what kind of Federal programs?

Mr. TUCKER. One of the things the Federal Government really ought to be working very hard on now—and, in budgetary terms, it would take very little—is improving the methods for doing exactly what we have just been talking about. That is, assessing kids' competence with respect to these kinds of behaviors and characteristics. This needs a lot of work.

Representative SCHEUER. It is going to take a lot of work.

Mr. TUCKER. That is right. While we know how to judge kids' competence writing an essay, what we don't know how to do is to set up large scale systems for doing that regularly at a price that we can afford, because right now it takes a fair amount of time from several very highly qualified people to judge the merits of an essay, and if you multiply that by millions of kids, it is very expensive. We have to find ways to do that less expensively, and we know more about how to do it with respect to judging the merits of kids' work on essays than we do the other sorts of things I was talking about a moment ago, how to judge their competence at interpreting the world in mathematical terms, for example, or in scientific terms.

We know really well how to use true and false tests, to figure out whether they can place the Civil War in the right half century. We don't know very much yet about how to find out whether they can take the evidence in front of them about the Civil War and come to some reasoned judgments about why the North won and the South lost. That is quite another matter.

Representative SCHEUER. Yes.

Mr. **Lieber**. Mr. Scheuer, I would like to again suggest that while the Federal Government can deal with assessment, that is still a top down. You are dealing with a large, large institution, as you well know, and it is a behemoth, gigantic test, absolutely essential, but at the same time that is trickle down, and what you really need is some trickle up. You need people within the institution at the grassroots to (*a*) be ready to accept, to have the mindset to accept, and (*b*) to begin to think of other ways to create the foment, the creativity within the institution, and therefore, it becomes very critical, in my opinion, that the Government provide the kind of leadership——

Representative **Scheuer**. You are talking about the Federal Government?

Mr. **Lieber**. The Federal Government. In some kind of additional opportunities, maybe they are incentive-driven by the Federal Government, that students and colleges can take, that people already teaching can also take. The Federal Government engaged itself many years ago, I believe, in the Alum Rock venture on vouchers. That was the Federal Government. Whether it is good, bad, or indifferent, they engaged themselves, and I think that this is at a much more sophisticated voluntary plane.

Representative **Scheuer**. I have heard some marvelously interesting goals about trickling up and making these schools consumer directed and consumer motivated. We are faced with a condition, not a theory, as Grover Cleveland said well over a century ago. The condition is that it is very difficult for the Federal Government to get local school systems to change. They are almost impervious to change. If they weren't so impervious to change, they would have adopted the Headstart Program. School systems across the country would be extended down to the second year, but they haven't. The Headstart Program came and went and left barely a trace.

So the question is, How do we motivate this turgid system to react? And we have to have very specifically designed programs to do that. And I hope, Mr. Lieber and Mr. Magaziner and Mr. Tucker, you can help us design specific programs to do some of the wonderful things you have talked about. For example, Mr. Magaziner, you talked about 200 great American companies that have set up 20,000 jobs in Singapore.

Mr. **Magaziner**. 100,000

Representative **Scheuer**. Excuse me; 100,000 jobs in Singapore. Yes. That is an incredible statement, you know. How do we get them to create all those new jobs here? If the training was an element in it, and you say they liked the experience of all those training institutes that the Government of Singapore set up, is there some way we can take advantage of that experience and get them involved in setting up training institutes here, the kind of thing they are familiar with through their experience in Singapore? Is there some kind of funding mechanism that we could provide to encourage them to set up that training system as part of their corporate activity?

Mr. **Magaziner**. Yes, sir.

Representative **Scheuer**. Or should we set up a system that would help them work with school systems in setting up, perhaps, some kind of a job training program that would be jointly run by the school system and the corporation? Or maybe this kind of training should take place in the schools. Maybe some of it would be more likely to succeed out of the education environment, because many of these kids have dropped out of the education system. They have been turned off, for whatever reason—they were bored, they were frustrated, they were unhappy, they were unsuccessful. They have dropped out, literally and figuratively.

Can we get back into the learning process at the job site of those kids that have been totally turned off by the education system?

What I am suggesting is, we need some specifics of the kind of a legislative program we should write to encourage some of these things that you are talking about. They are all marvelously interesting, and if we get them into the stream of commerce, if we could just get them going, they probably would show some remarkable results at the end of the line.

The question is, How do we get them into the stream of commerce? How do we get these programs implemented? How do we provide incentives for local school systems to do some of these innovative things? You have got to help us with some specifics.

We have been given a mission—first, we were told that we had to get out of here at 1 o'clock, and then I wheedled a little bit, and we were given to 1:15. It is now very, very close to that.

So I leave you with an impassioned request to help us design specific programs, not in a vacuum, but in the real world that we live in. I think there is a consensus in Congress that there is something really wrong with the education system in our country, that we have got to play a lot of catchup ball, and we have got to do it fast, and some profound changes have to take place.

Give us the wherewithal, give us the specifics, give us the program design.

Now we have a couple of minutes, if anybody wants to react, but I am prepared to leave you on that upbeat note. [Laughter.]

Mr. TUCKER. I guess I just want to reiterate one point, because I probably didn't say it very clearly.

In saying that we ought to tie some part of our funds for elementary and secondary education to performance on the school's part. What I was really saying is, maybe we ought not to have specific Federal programs to do A, B, C, and D.

Maybe we ought not to say that particular plan that Mr. Lieber laid on the table is what we want you to do, or Headstart is what we want you to do or Follow Through is what we want you to do, but with respect to the kids that we are concerned about, if you can come up with ways of making more progress for those kids than other districts receiving Federal money, who have kids of exactly the same characteristics, then we are going to give you more money. What that is going to do is force a search on the part of those districts for the best ideas that are out there, so the Federal Government gets out of the business of saying, this is the way to do it. If you look at the most recent amendments to the Federal education programs that are now going through the Congress, there is page after page after page of this idea and that idea and this nifty widget and that nifty widget. Everybody's favorite widget is stuck in there, and there is a little money for this one and a little money for that one and a little money for this one.

What I am really suggesting is that we throw that way of doing business out, and, instead of saying, here are the programs we want you to implement, we say, here are the kids we care about, here is how we are going to measure real progress with respect to those kids, and you are going to get more money, if you can make progress for those kids against those criteria than if you can't. You go and figure out what the best way is.

I really agree with you. I think it is crazy for us here in Washington to say, this is the best way to solve the problem. What we need to do is to find a way to release their ingenuity, their ability, their design creativity, and to say, look, at least with respect to Federal funds, there are going to be real rewards for success with these kids, and there are going to be real penalties for failure. We have never done that before. We have said, here's money for a program. Go and spend it. When the money runs out, the program is over.

That is why they never picked up on Headstart. They were perfectly happy to take the money as long as it was on the table for that purpose, and that is when it ended.

If we had said to the same school districts, here is Federal money for these kids. We are going to give it to those districts who, with respect to kids more in need, can produce the most performance increase for kids ages 4, 5 and 6, for example, then you would have had all those districts running around saying, "My God, what works for kids of that age?" And they would have said, "Ah! Headstart works. Let's do that." And you would have found implementation all over the country, not because you said, what we want you to do is Headstart, but because you said, the rewards that you are going to get are going to be tied to real improved performance on the part of the kids. You go out and find the thing that really works.

So what I was really saying was, maybe we ought not to be looking for specific programs, we ought to be looking for fundamental changes in the incentive structure. Very different.

Representative SCHEUER. Well, even that is a program.

Mr. TUCKER. Oh, yes it is, but of a very different kind than what we are used to.

Representative SCHEUER. Any other remarks before we close down? [No response.]

Well, it has been a very, very thoughtful and stimulating session, and I thank you all.

The subcommittee is adjourned.

[Whereupon at 1:20 p.m., the subcommittee adjourned, subject to the call of the Chair.]

[The following information was subsequently supplied for the record:]

NAESP National Association of Elementary School Principals

Organization of Professors of Elementary School Administration OPESA

November 26, 1987

The Honorable James Scheuer, Chairperson
Joint Committee on Economics
G-01 Dircksen Building
Washington, D.C. 20510

Dear Representative Scheuer:

I have just spent the morning watching the hearing held by the Joint Committee on Economics entitled "The American Worker." I am currently Professor of Education at the University of Missouri responsible for teaching a course, Educational Policy Analysis; and I am President of OPESA, a sub-group of the National Association of Elementary School Principals. As a public school educator of over forty years and one who is guiding the work of NAESP/OPESA on the development of a position paper on The Preparation of Elementary School Principals for the 21st Century, I found the interchange extremely helpful and stimulating.

For a variety of purposes, including the work on the paper just noted, I would like to have a transcript of "The American Worker" hearing if such is available. It covered in a provocative and useful way the significant issues faced both in giving meaning to the place of schooling in America's future and the possible substance of the changes in schooling that will likely be required to assure that future. You and your colleagues are to be congratulated and commended for convening the hearing and for its design.

Your breadth and depth of understanding of the issues involved are equally commendable. The complexities of the issues that face both the people of the nation and state and local public schools in the latter years of this century and the early years of the next are staggering. I sense that you share in that belief. It was interesting to note that only two of those providing testimony seemed to come at the problem from a prospective of real breadth. In my brief notes I didn't catch all of the names. One person proposed that the problem of competitiveness in the world marketplace was to be explained in part by higher wages for jobs requiring lower levels of education in this country that are opposite to the relationship found in other developed countries. He also suggested that expectations for an exceptionaly high standard of living were not changing in keeping with the characteristics of the economic conditions faced in the nation today.

Former Secretary Marshall alluded to the influence of familes on the motivation of children to expend effort in schools. It is exceedingly difficult to educate students that place no value on education and who do not want to be educated or students whose behavior thwarts the efforts of our best teachers. Federal programs focusing on the education of parents of young children have had, as was cited in the testimony, a more powerful effect on childrens' success in school than almost any programs enacted in the recent past. Surely continued federal funding of such programs must be high on the agendas of your committee and that of Representative Hawkins.

As you would expect, I have read the reports of many commissions that have taken public school reform as their objectives. Two good friends were members of the President's Commission on Excellence in the Public Schools. It is with ambivalence that I have tried to digest the underlying meanings many of the reports. I possess a deep sense of loyalty to the concept of free, public schools. I am depressed and troubled by the slow pace at which significant reform is taking place but reluctant to believe that all of the reform proposals are equally promising for strong public school systems in the states of our nation.

Before continuing, let me assure you that the points of view which follow are not necessarily based on positions taken by NAESP or OPESA. I was somewhat distrubed by some of the answers to the questions you asked. You asked a key question: "What can the federal government do?" The responses were numerous, varied and not all equally appealing to educators or local school boards as Dr. Lieber testified. Several suggestions for federal contributions made better sense.

For whatever they are worth, I would like to take this opportunity to share them with you as briefly as possible. First, the issue of accountability in public schools must be clarified soon. The suggestion of value-added education makes some sense, but it makes no sense as a basis for funding. If only those schools that are providing superior progress for students are provided with additional funding, the schools that may need assistance the most are least likely to have access to that assistance when it is most needed. Not all of the schools with low measured achievement will show the greatest gains although it is true that such schools will find it easier to produce commendable gains. Second, the idea of providing added assistance only to schools with programs of proven merit fails to recognize that seed money is often needed to turn those schools of less merit toward greater effectiveness with their students.

Third, the testimony on the impact of job corps programs included the note that those in the programs were made to realize that this was their last chance. True, the Job Corps has experienced some superior results. Public schools, however, cannot take this "last chance" position with their students. Nor can the public schools provide programs as limited in scope and depth as is usually true of Job Corps Centers. Mark Tucker's testimony about accountability is far closer to the sorts of things school personnel would find workable. His caveat that it would require financial support not now available must be dealt with by some one or more of the parties responsible for the support of education within a framework of state control and limited federal concern.

If the testimony bearing on equity suggested a federal role, it may have been in the portions of the comments that noted substantial differences in the various states' abilities to fund public schools and the recommedation for the federal government to fund research and provide a clearing house for the dissemination of information about the findings of research. There are many able scholars in colleges and universities that do not currently have access to research funds for the purpose of investigating some of the issues most pertinent to learning in areas such as those noted by Mark Tucker. Currently more money is being spent on research on basic learning problems by the Department of Defense than by any other federal agency.

As for federal involvement in equity financing of education, the variations in wealth of the states means that some states must have some relief without catagorical strings attached in ways the restrict the individual state from coming to grips with the unique problems faced. When the economy of the country permits, perhaps the plan set forth in defeated School Aid Act put before Congress, I believe in 1960 or 1961, should be revisited.

Finally, I found the distinction made between education and schooling of importance to the larger issues of giving vision to school reform. A clarification may also be needed for discriminating between training and education. This issue is confused at state and local levels by such recommendations as the publication of state-wide test results for school districts and schools, a recommendation in place in a couple of states in a lesser form and now promoted by the Governor of Missouri. Superintendent Lieber would praise such a practice because it would provide a basis for the marketplace approach to motivating excellence and school improvements. There are numerous technical reasons to question the efficacy of such a practice. Among those reasons is the likelyhood that schools will focus more attention on the "old basics" that can be taught and measured more easily and economically.

Enhancement of the "education" of students demands a more complex system of instruction and assessment than will be economically feasible for most school districts. Educators of prominence recognize the feedback value of assessment results but frequently press for different views of accountability. A more reasonable view of accountability would be to hold school districts and individual schools responsible for establishing clarity on the meaning of education and having in place systematic school improvement programs with sound evaluation activities in place with which to assess the improvement program. Such evaluation activities should lead teachers and building administrators to in-depth inquiry into the nature of the goals they seek, how their students are achieving in terms of those goals, the learning characteristics of the students they teach, and their personal professional approaches to instruction and administration designed to achieve the school's goals. Such inquiries must focus on improvements much closer to the heart of the issues of teaching and learning rather than trying to solve learning problems in schools by adding staff members or providing another machine or room for this or that purpose. It is recognized that some schools do need more space and that some schools are without the most promising eeducational technology.

I have probably taken too much of your time with thoughts that have already occurred to you. Again, please feel good about the leadership you have provided in the nation's efforts to regain significant world economic vitality and strength.

Respectfully,

James L Craigmile

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# COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORK FORCE

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TUESDAY, OCTOBER 27, 1987

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Senator Sarbanes; and Representatives Hamilton, Scheuer, Fish, and Wyden.

Also present: Deborah Matz, professional staff member.

## OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative Scheuer. Good morning. Today we are continuing our series of hearings on Competitiveness and the Quality of the American Work Force. Once again, we have a very impressive set of witnesses who I and my colleagues are pleased to welcome.

In fact, today the witnesses are particularly important: elected State officials; a school supervisor; teachers; and a representative of the largest organization of teachers. These indeed are the people at the front line in our battle for education reform.

Our first witness is Hon. Robert Orr, Governor of the State of Indiana, who is serving a second term. He has demonstrated a strong commitment to education excellence and improving the quality of education in Indiana. And to introduce Governor Orr, it is my very great pleasure to recognize the distinguished vice chairman of the Joint Economic Committee, the senior House Member of the JEC, the distinguished Congressman from Indiana, Lee Hamilton.

## OPENING STATEMENT OF REPRESENTATIVE HAMILTON

Representative Hamilton. Thank you very much, Mr. Chairman and members of the committee. It is a high privilege for me to have the opportunity to introduce the Governor of our State of Indiana, Gov. Robert Orr. He has a remarkable record of public service, having served in the State senate for 4 years, as Lieutenant Governor of our State for 8 years, and as Governor for 7 years, completing now his second term.

Governor Orr is deeply respected in the State of Indiana. Throughout his career he has had a very strong interest in education and he has had a strong interest in education reform.

He will speak to us, I am sure, in his testimony with respect to his A+ Program for Educational Excellence, a program adopted by the Indiana General Assembly, and he has certainly recognized, as very few leaders in the country have, the connection between education and the U.S. position in world trade and the competitiveness of U.S. industry.

So it is a very high privilege for me to have the opportunity to introduce a good friend and the Governor of our State, Gov. Robert Orr.

Representative SCHEUER. Thank you very much, Lee. Governor, if you will bear with us for just a moment, we have a distinguished Member of Congress from the State of Oregon who would like to introduce the witness who will follow you, Hon. Vera Katz. She is the speaker of the house of the State of Oregon and the first woman speaker of the house.

It is also a great pleasure for me to introduce Ron Wyden for the purpose of introducing the distinguished witness from Oregon.

## OPENING STATEMENT OF REPRESENTATIVE WYDEN

Representative WYDEN. Thank you very much, Chairman Scheuer. Chairman Scheuer, I particularly want to commend you for your leadership in this field. I think this is essential to American competitiveness, Mr. Chairman.

I just want to tell you it is a pleasure always to work with you on the Commerce Committee and on these other vital issues, and commend you for holding these important hearings.

Representative SCHEUER. Thank you very much.

Representative WYDEN. Mr. Chairman, I am particularly pleased to have a chance to hear the wisdom of the witnesses who are about to share with this committee their ideas on educational excellence. In particular, I want to welcome a close personal friend of mine, Mr. Chairman, for more than a decade, Speaker Vena Katz, who I think really sets the standard for leadership at the State level on these important issues, and I think the whole Congress will benefit from the excellent counsel that Speaker Katz has to offer on these important issues.

Mr. Chairman, in 1983 I was a member of the Congressional Merit Pay Task Force, where we studied the proposals on how to improve our educational system and high teacher quality. In this area, it was clear to me that we had a long way to go to encourage bright young people to enter the teaching field, and we need more incentives to the outstanding teachers we have.

Mr. Chairman, as a result of my service on that task force, I introduced legislation called the Talented Teacher Act which gave scholarships to bright young people to go into teaching and fellowships to outstanding teachers in the classroom. This legislation, Mr. Chairman, has become law. As far as I know, this is the only Federal educational initiative we have seen in the last few years to try to help attract bright people into teaching and keep the outstanding teachers we now have.

I am pleased to say that, as a result of a staff survey that we have recently conducted, the number of qualified applicants seeking these scholarships and these fellowships has far increased the number of positions available, and I think it is clear that it can set a model for further Federal action and also for State initiatives in this area.

Representative **Scheuer**. Thank you very much, Ron.

I am going to include my opening statement for the record, and I would be happy to have you do the same.

Representative **Wyden**. Thank you.

Representative **Scheuer**. Now I would like to recognize the distinguished chairman of the Joint Economic Committee, a Senator from Maryland.

## OPENING STATEMENT OF SENATOR SARBANES

Senator **Sarbanes**. Mr. Chairman, I will be very brief. The Senate, unfortunately, is going to be voting very shortly and I am going to have to leave.

First of all, I want to repeat again what I have said before about these hearings, which you have organized. I think they are making a major contribution.

I am delighted to see Congressman Hamilton here this morning, the vice chairman of the Joint Economic Committee and its ranking House Member. Congressman Hamilton has provided effective leadership to the committee in the past, and with whom I discussed the agenda that I did with you when we focused on education as an important priority for the committee to consider.

I am delighted to see Governor Orr here. Governor, we are pleased to have you with us this morning, and I am looking forward to seeing my old friend, Governor Riley.

Speaker Katz, we are honored that you are here. We know the effective leadership you have exercised at the State level on behalf of education. We are looking forward to hearing from you.

I probably won't be here at the start of the second panel, Mr. Chairman. I simply want to underscore that the subcommittee will be hearing from Superintendent John Murphy of the Prince George's County School System in Maryland, the Nation's 14th largest educational system. He has done an absolutely superb job as superintendent—absolutely superb. Over the past 3 years, he has introduced a highly successful Magnet Schools Program, a Principals' Academy, a comprehensive Program for Students at Risk, an excellent accountability system for the school employees.

I visited, in fact, Prince George's County just a week ago to see what they were doing in the school system and it is a very impressive performance, and I know the committee is going to draw a great deal of strength and enlightenment from Superintendent Murphy's testimony when he comes before you in the second panel. Thank you very much.

Representative **Scheuer**. Thank you, Chairman Sarbanes. I wish to express my gratitude at this time to the chairman and vice chairman of the Joint Economic Committee, Senator Paul Sarbanes and Congressman Lee Hamilton for their outstanding and always enthusiastic support for these hearings and the purpose behind them, mainly for America to get at the business of improving the quality of the work force so that we can maintain our standard of living, stop the export of jobs, compete successfully in global commerce, and achieve the kind of quality of life that we all want.

A literate, productive, and competitive work force is an indispensable precondition to all those things.

Before we call our first witness, at this point I will include the opening statements that I have for the record, without objection.

[The written opening statements of Representatives Scheuer, Fish, and Wyden follow:]

OPENING STATEMENT
CONGRESSMAN JAMES SCHEUER
OCTOBER 27, 1987

Today we are continuing our series of hearings on Competitiveness and the Quality of the U.S. Workforce. Once again we have a very impressive group of witnesses who I am pleased to welcome.

In fact, the witnesses today are particularly important. Elected state officials, a school supervisor, teachers and a representative of the largest organization of teachers-- these are the people at the front line in our battle for education reform. You are the people responsible for determining what our education goals ought to be, what changes in our current teaching standards and methods are needed and how these changes can be introduced effectively. You are also the people who are constantly challenged to find adequate resources to maintain and upgrade the education system, and most important, you are the people who teach our children and bear the ultimate responsibility --and gratification--for this enormous accomplishment.

As you may know, this is the fifth of eight days of hearings on the topic of Competitiveness and the Quality of the American Workforce. Over the past several weeks, the Committee has heard from a wide-range of experts on the various aspects of this issue. I must admit that I am, indeed, disturbed about much of the testimony the Committee has been receiving.

We have heard a great deal about the importance of an educated and skilled workforce to industry and ultimately to our nation's competitive position in the world. But we have also heard some very discouraging facts: that most jobs in the future will require higher levels of education, that half a million students drop out of high school each year, and that an additional 700,000 who graduate are barely able to read their own diplomas. Equally disturbing, we have also been advised that many others, although capable of reading and writing proficiently, simply have not learned to think and process information, skills that are and will be increasingly indispensable to members of the workforce. While our witnesses represented a broad spectrum of viewpoints, they all agreed on one matter--that schools are simply not responding adequately to the changing needs of industry and are, thus, not preparing our students to participate meaningfully in the workforce.

We have heard how crucial it is that schools reform their teaching methods, revamp their recruitment and promotion policies, and utilize new technologies and management techniques. Further, we have been advised that the American people are concerned about the quality of education our children are receiving, support educational reform, and are willing to pay additional taxes to implement improvements.

The witnesses before us today are the people who make the policies for the states and implementing them in the schools, reconciling the needs of students, teachers, parents and taxpayers. You are the people who can tell us what are realistic expectations for the schools and for the students. We are interested in hearing about the reforms you have attempted and both your successes and failures at implementation as well as the reactions of parents and students.

# OPENING STATEMENT FOR REP. HAMILTON FISH
BEFORE THE JOINT ECONOMIC COMMITTEE
SUBCOMMITTEE ON EDUCATION AND HEALTH
"THE COMPETITIVENESS AND QUALITY OF THE AMERICAN WORKFORCE"
OCTOBER 27, 1987

ALONG WITH CONGRESSMAN SCHEUER, I AM DELIGHTED TO BE HERE THIS MORNING TO WELCOME OUR DISTINGUISHED WITNESSES TO THIS SERIES OF JEC HEARINGS ON "COMPETITIVENESS AND QUALITY OF THE AMERICAN WORKFORCE." THESE ARE AN IMPORTANT SERIES OF HEARINGS BECAUSE THE U.S. ECONOMY IS CONFRONTED WITH NEW, FAR-REACHING CHALLENGES THAT WILL REQUIRE A SUSTAINED NATIONAL EFFORT BY OUR GOVERNMENT, CORPORATIONS, AND SCHOOLS TO SUCCESSFULLY MEET THEM.

TODAY'S HEARING, "WHY HIGH SCHOOL STUDENTS FAIL TO MEET THE STANDARD AND WHAT TO DO ABOUT IT," IS PARTICULARLY IMPORTANT BECAUSE I BELIEVE PREPARING AMERICAN STUDENTS FOR THE FUTURE DEMANDS OF THE MARKETPLACE SHOULD RECEIVE OUR HIGHEST PRIORITY. WITNESSES BEFORE THIS COMMITTEE HAVE TESTIFIED THAT THE JOB MARKET OF THE YEAR 2000 WILL BE FAR DIFFERENT THAN THE MARKET OF TODAY. "WORKFORCE 2000," THE EXCELLENT STUDY BY THE HUDSON

INSTITUTE, CONCLUDES THAT BETWEEN NOW AND THE YEAR 2000, THE FASTEST GROWING JOB CATEGORIES WILL BE IN PROFESSIONAL, TECHNICAL, AND SALES FIELDS REQUIRING THE HIGHEST EDUCATION AND SKILL LEVELS. ACCORDING TO THE REPORT, 41 PERCENT OF NEW JOBS WILL BE IN THE HIGHEST SKILL GROUPS COMPARED WITH ONLY 24 PERCENT OF CURRENT JOBS. IT IS OBVIOUS THAT IF WE SIMPLY PROCEED WITH BUSINESS AS USUAL, THE UNITED STATES WILL BE BURDENED WITH A GENERATION OF STUDENTS WHO WILL HAVE DIFFICULTY PERFORMING THE TASKS DEMANDED OF THEM IN THE MARKETPLACE.

THE FEDERAL GOVERNMENT CAN PLAY A VITAL ROLE IN INSURING THAT SUCH A SCENARIO DOESN'T HAPPEN. I BELIEVE THAT THE OMNIBUS EDUCATION BILL, WHICH WAS RECENTLY PASSED BY THE HOUSE OF REPRESENTATIVES, IS AN IMPORTANT STEP TOWARD ADDRESSING THIS ISSUE. I WAS PARTICULARLY PRIVILEGED TO COSPONSOR PROVISIONS OF THE BILL THAT ADDRESS THE SPECIAL NEEDS OF GIFTED AND TALENTED CHILDREN, DROPOUTS AND THE PHYSICALLY CHALLENGED. THE BILL IS AN IMPORTANT FIRST STEP BUT FAR MORE WORK NEEDS TO BE DONE.

I HAVE A SPECIAL INTEREST IN TODAY'S HEARINGS BECAUSE THE ISSUES BEFORE THE COMMITTEE HAVE A FAR-REACHING IMPACT ON ALL CONGRESSIONAL DISTRICTS, INCLUDING MY OWN IN NEW YORK. SO I WILL BE FOLLOWING THIS MORNING'S TESTIMONY WITH SPECIAL CARE.

THANK YOU.

# OPENING REMARKS
# CONGRESSMAN RON WYDEN
# AT A HEARING BEFORE THE JOINT ECONOMIC COMMITTEE ON EDUCATION AND COMPETITIVENESS

OCTOBER 27, 1987

Mr. Chairman, I am pleased today to hear the wisdom of the witnesses who are about to share with this committee their ideas on educational excellence. In particular, I welcome the Speaker of the Oregon House of Representatives, Vera Katz. Speaker Katz is also the Director of Development at Portland Community College and served on the Carnegie Task Force on Teaching as a Profession.

In 1983, as a member of the Merit Pay Task Force, I studied the proposals on how to improve our educational system, and high teacher quality was a key issue. In this area, it was clear to me that we had a long way to go to encourage bright young people to enter the teaching field and we needed more incentives to the outstanding teachers we have.

The task force's efforts paid off in getting the only federal educational excellence legislation passed into law in 1984. That law, then called the Talented Teacher Act, addressed the teacher quality issue in both ways — it provided scholarships to encourage bright students to enter the profession and awarded fellowships to the top teachers already in the classroom.

This federal scholarship program — the Congressional Teacher Scholarships — provides tuition assistance to top high school students who agree to teach primary or secondary school following their college graduation. High school seniors who meet the demanding academic requirements can receive up to $5,000 a year in tuition assistance toward a four-year undergraduate degree. In return, scholarship recipients must agree to teach two years for every year as a Congressional Teacher Scholar.

The response to this initiative has been overwhelming. My staff has conducted random state surveys on the numbers of qualified applicants seeking these scholarships, and in every state we surveyed, there have been dozens more qualified applicants than there have been scholarships to award.

The Christa McAuliffe Fellowships — named to honor the courageous social studies teacher who was to have been the first educator in space — awarded fellowships of $25,000 to enrich the professional knowledge of 115 teachers around the country. In exchange, these teachers agree to return to a teaching position in their school districts for two years. We're even getting some early pay-off in this fellowship program as many of these teacher-fellows are planning to use their fellowships for projects designed to enrich the professional knowledge of their colleagues.

These two efforts are only the beginning more initiatives for educational excellence are beginning at the state level and in the private sector. In Oregon, Speaker Katz was instrumental in pushing through several educational excellence initiatives. The Oregon Teacher Corps bill, which complements the Congressional Teacher Scholarship program, will provide even more tuition assistance to bright would-be teachers in our state.

And with cooperation, creativity, and determination, we can build even more opportunities like these. The Oregon Teacher Corps bill is a good example of combined federal and state efforts that maximize the education funding. In addition, the private sector can play a crucial role in Oregon education.

I've long felt that the business community could also set up similar scholarship programs. The educational and community service rewards would far exceed the financial commitments of corporations that would participate. In some states, including Oregon, the state scholarship commissions could administer the funds from the private sector. State and federal officials, as well as representatives from the private sector, must work together to encourage these innovative approaches. We can coordinate the various education improvement initiatives and encourage creative private sector involvement in education.

American education can benefit greatly from this kind of close coordination, as good ideas are coming out of all levels of government these days, as well as the private sector.

There's no doubt that education is crucial to making the the economy work. After all, we've heard it said over and over again that an experienced and capable workforce makes all the difference to our nation's ability to be competitive in the international market.

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Representative **Scheuer**. Governor, Congressman Hamilton has given you a wonderful introduction. We are looking forward very much to hearing from you. Why don't you take 8 or 10 minutes to chat with us informally about your views, and then after Speaker Katz has addressed us, I am sure we will have some questions for you.

Let me interrupt for one moment by saying we hope you will chat with us informally because your prepared statement will be printed in full in the record.

Governor **Orr**. I have some prepared remarks and I will deviate from them a little bit in a conversational way.

Representative **Scheuer**. Fine.

## STATEMENT OF HON. ROBERT ORR, GOVERNOR OF INDIANA

Governor **Orr**. Let me greet the chairman and the vice chairman and my friend, Congressman Hamilton, and thank you very much for being here to introduce me today, as someone whom I have known for a very long time, from his very earliest days when he lived in my home town. He fled it later. It is probably to the disadvantage of Evansville that he did so.

Thank you for providing me this opportunity to give a Hoosier perspective on the most critical issue of the day, education, and the key it holds to America's future ability to compete in a global economy.

Comparing my testimony with that of Governor **DiPrete** and Governor Clinton who were before you last week, they emphasized the retraining of the work force, reeducating of the illiterate, and particularly the functionally illiterate, in order to give us a better work force. And there was very good testimony by both of them.

My testimony will talk more about educating the children in Indiana, educating them for a fast-changing world, providing the whole work force with a higher level of cognitive skills—work force eventually, that is—and basic knowledge, and giving them the ability to be flexible to meet the continuing change which I feel sure is going to take place.

We in Indiana are engaged in a vast structural revision of vocational and technical education in order to bring us to the relevancies that are necessary today. We are also retraining workers. As a matter of fact, there is a great deal of State money doing that, retraining them in the workplace in order to acquire new skills so they can stay employed—this is, of course, a very important function in today's economic world—and work on the illiterate and functional illiterate with special programs as well. But it seems to me important to emphasize particularly elementary education.

It is a joy to be asked to testify before your committee because it brings all of those who have worked hard to make Indiana a leader in the education reform movement, it brings us before you. It is further recognition that we accomplished in Indiana last winter and spring, in creating and adopting the A+ Program for Educational Excellence, something that is really noteworthy.

Actually, in a speech before the National Press Club recently, Secretary Bennett described Indiana's program as one of the best education reform bills that he had seen and he complimented it for the accountability that it brings to public education.

I am delighted to have a chance to tell you a little bit about this A+ Program in this morning's testimony. This committee's focusing its attention on education and competitiveness is something that they should be complimented for. The Government has a vital role to play in keeping America from losing out in world competition.

I must reiterate a conviction, however, which is that with all due respect to Congress and the members of this committee, in the end it is State governments which are best equipped to make America competitive again by giving her the best educated work force in the world.

In Indiana, we view the global challenge with undivided attention. Like much of industrial America, we have endured the costs of not being prepared. The recession of the early 1980's hit doubly hard in Indiana and many of our sister States where our industrial economy was traditionally tied to automobiles and to steel and other consumer durables. But the two industries that I refer to were deeply affected then by low productivity.

Like all of our Midwestern neighbors, we have clawed our way back to the point where today more people are working in Indiana than at any time in our State's history. Even so, we can't afford to take it easy.

Memories of despair that were brought about by this wrenching economic change are really a motivator for the unprecedented action like the A+ Program passage. We are going to continue in Indiana to be strong economically and have continued growth in the 21st Century, but we must provide our future work force with a new level of knowledge. We must prepare for tomorrow by constantly improving public education. Not to do so is simply to ignore the obvious international challenge of friends and enemies alike.

A steadily growing trade deficit, largely caused, in my opinion, by the inability of American business to export its manufactured products as effectively, for example, as Germany, Japan, Holland, and many many other nations as well, poses a serious problem for America as does the steady decline of manufacturing jobs.

I told the legislature, before making our landmark A+ education proposal in my state of the State address last January—and I quote myself: "Clearly, we are a nation under economic attack and unprepared for the rigors of international competition. If we do not do something now to become competitive, the next generation will become the first in 15 generations of Americans to inherit a standard of living lower than that of their parents."

To put it in a few words, we must learn how to sell abroad all of American industry.

That is rhetoric. Now let me share a real story that illustrates the immensity of our challenge. A couple of weeks ago, I hosted an event for young business leaders from around the State of Indiana. One of these men was the president of a small manufacturing enterprise, typical of many in rural Indiana, with a strong industrial base.

He approached me and said, "Governor, what can I do to help increase the amount of learning that goes on in our schools?" And

I had talked to them about our A+ Program. He had reason to ask because his company had just finished interviewing nearly 300 people in order to fill six jobs. He had discovered that most could neither read the directions on the job applications, nor could they fill them in correctly.

He had learned, firsthand, the sad truth that we are continuing to graduate from high school every year, still, far too many Americans who are unprepared to apply for a job or to fulfill the fundamental tasks of today's workplace, not taking into account at all tomorrow's workplace.

That gentleman asked me the same question that provides the theme for today's hearing: Why do high school students fail to meet the standard, and what do we do about it?

In Indiana, our main response has come in the area of early prevention or early intervention. We believe that the best way to improve the quality of high school graduates is to give youngsters a solid educational foundation in the early years of schooling. Three particular features of the A+ Program put this philosophy into action.

The first is the full implementation, statewide, of something we call Prime Time, a program for grades K through 3. Prime Time provides an 18:1 ratio in kindergarten and first grade and a 20:1 ratio in second and third grade. The result, of course, is more discipline and more learning in the classroom. Of equal importance is the greater individualized instruction during a period in a child's development when he or she is most capable of learning.

Teachers can spend more one-on-one time with pupils and they can bring low achievers up to speed, and they can provide a challenge to the academically talented. It simply opens the doors to greater creativity.

The Prime Time Program was singled out by the New York Times in 1984 as among one of the Nation's major reforms. Since that time, we have brought it into the school systems in Indiana and made it possible for kids to learn and relearn for the rest of their lives, and that is what we are really aiming at: To relearn off into the future.

It is one of those things that is absolutely necessary because if we are going to have a work force in the future which is able to deal effectively with the changes that are going to take place, they have to be flexible.

I think it is of importance to mention that this Prime Time Program has been voluntary from the beginning. It has been state-funded to the largest degree. It is now almost universal in Indiana.

We have two important initiatives in the A+ Program beyond that. Statewide proficiency testing and the elimination of social promotions—those going together—build upon the momentum for change and innovation inspired by the clearly evident need for additional improvement in the delivery of education.

The Indiana Statewide Test for Education Progress—it is called ISTEP—will be administered in seven grades in elementary and high school. It takes the California Achievement Test and tailors it to Indiana in its proficiencies. It is the curriculum for Indiana and the standard proficiencies that have been developed by our department of education.

Students who score below the minimum will be required to take summer remediation and pass a different version of the ISTEP before they can be promoted to the next grade. The aim of this is simply to enable all students to keep pace with their contemporaries, with their peers, and try to prevent this dropout situation which has besieged us.

This technique is preferable, I think, every way to the false advancement allowed by social promotion, which is a virus which has plagued public education nationally with increasing impact in this last generation.

We believe the effort to curb social promotions in Indiana are especially timely in an era when a combination of societal changes have helped create a whole new class of students we all call "children at risk." It is these children who suffer the worst effects of social promotions.

They are there, these children at risk, in the classrooms when I visit elementary schools around our State, which I do very frequently. I can't pick them out as being different. They look the same. Their eyes tell me the same story. They are hopeful and eager and curious and expectant. Whether this is in a city school in the inner city or a rural school, a poor school or a rich school, the eyes always look the same. But the sad fact is that these curious and expectant faces mask the tragic fate that awaits many of them who will fall behind early and never catch up.

These students are the ones that we hope to identify through ISTEP and get back on track with subsequent remediation. That is the whole idea.

The tragedy of social promotion just has to end. America cannot tolerate a practice that takes bright-eyed youngsters and, in 12 short years or less, turns them into incompetent high school alumni or, worse yet, dropouts who fall by the wayside along the way. All of these people will be destined for underachievement for their lifetime, or perhaps welfare rolls.

The positive effects of catching children at risk before they fall through the cracks will show up in a better prepared high school graduate who is capable of acquiring the postsecondary education a more sophisticated workplace will demand in the future.

If kids have trouble in school they should not be written off. They should not be shoved through the system. They need help and in Indiana we have taken the steps, I believe, to provide it.

In addition to helping stop social promotions, we expect the ISTEP testing program to be our primary means for bringing more accountability to public education. We asked Hoosiers to pay an additional $630 million on top of about $4.5 billion for their public schools over the next 2 years, the year we are in now and the year following. We raised taxes to support the more stringent requirements of A+. We thought it only right as a result, that parents and taxpayers have for the first time a way to measure performance of their local schools.

ISTEP results will be made public school building by school building, so that parents and taxpayers will know how well their kids are doing, how well the schools are performing. ISTEP results are the kind of thing that figure prominently in our new system of school accreditation which now focuses on outputs instead of those inputs that we have always used in the past as a way by which to accredit schools.

Finally, ISTEP scores will be one of four key elements in a new performance reward system for individual schools. The others are school attendance and the achievement of proficiencies in English and language arts and the achievement of proficiencies in mathematics.

I want to add one element that is also in the prepared statement and speak on it just very briefly, and that is better principals. It is our belief that accountability in education will mean greater responsibilities for the individual school principal. When one thinks about it, a good principal can make an excellent school, even with teachers that may not be the best. But even the best teacher, with an inadequate principal, will probably not be turning out the best education.

We established a Principals' Leadership Academy last year, the goal of which is to provide additional training for instructional leadership, inspirational instructional leadership as well as the management of the school, for approximately 200 principals a year, those principals getting their instruction from their fellow principals. It is a smashing success in its first year and it is having an amazingly good effect upon those principals that have attended that academy.

It is our hope that this will elevate, school after school, to being an A+ school, rather than one that is just doing a mediocre job. It is an accountability feature among the many that I believe is a part of what we regarded in this last legislative session as really a "full court press" as we basketball enthusiasts in Indiana put it. We employed every technique we knew of to get it enacted into law and we are now employing every technique we possibly can to assure its proper implementation.

I have a commercial that I am going to show you that was part of this full court press, and it is important. I will take only a moment, but let me show it to you. It is one of those things that a group of concerned citizens helped us with in funding.

[Commercial shown.]

Governor Orr. It was designed to bring people's attention to this program. You only saw about half of it, which I guess is the average of the span of vision of most Americans in watching their television sets.

Let me conclude simply by saying there is a lot more to the A+ Program than I have highlighted this morning. It does encompass 24 new and expanded initiatives. As I said at the outset of my testimony, my prepared statement provides more detail. You should also have received in advance this pamphlet which we are very proud of, which is now in the hands of educators all over the State of Indiana, which outlines our program, A+ Program, called "Measuring Up," which is what we are really attempting to do.

I would like to thank the commitee and compliment you for your efforts and thank you for inviting me to shed some light on a very exciting development in America's heartland as Indiana leads the way into a challenging new era for public education. Now I yield to my friend from the far West.

[The prepared statement of Governor Orr follows:]

## PREPARED STATEMENT OF HON. ROBERT ORR

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, THANK YOU FOR PROVIDING ME THIS OPPORTUNITY TO GIVE A HOOSIER PERSPECTIVE ON THE MOST CRITICAL ISSUE OF THE DAY — EDUCATION — AND THE KEY IT HOLDS TO AMERICA'S FUTURE ABILITY TO COMPETE IN THE GLOBAL ECONOMY.

BEING ASKED TO TESTIFY BEFORE YOUR COMMITTEE IS PARTICULARLY GRATIFYING FOR THE HONOR IT BRINGS TO ALL THOSE WHO HAVE WORKED HARD TO MAKE INDIANA A LEADER IN THE EDUCATION REFORM MOVEMENT. IT IS FURTHER RECOGNITION THAT WHAT WE ACCOMPLISHED IN INDIANA LAST SPRING IN CREATING AND ADOPTING THE "A+ PROGRAM FOR EDUCATIONAL EXCELLENCE" WAS INDEED NOTEWORTHY.

IN A SPEECH TO THE NATIONAL PRESS CLUB HERE LAST MONTH, EDUCATION SECRETARY BENNETT CALLED OUR PROGRAM "ONE OF THE BEST EDUCATION REFORM BILLS" THAT HE HAS SEEN AND COMPLIMENTED IT FOR THE ACCOUNTABILITY IT BRINGS TO PUBLIC EDUCATION IN INDIANA. I AM DELIGHTED TO HAVE THIS CHANCE TO TELL YOU A LITTLE ABOUT THE A+ PROGRAM, AND TO HAVE A MORE COMPLETE EXPLANATION INCLUDED IN THE OFFICIAL RECORD OF THESE PROCEEDINGS.

I WANT TO COMPLIMENT THE COMMITTEE FOR FOCUSING ITS ATTENTION ON EDUCATION AND COMPETITIVENESS. GOVERNMENT HAS A VITAL ROLE TO PLAY IN KEEPING AMERICA FROM LOSING OUT IN WORLD COMPETITION, BUT I MUST HERE REITERATE MY CONVICTION. WITH ALL RESPECT TO CONGRESS AND THE MEMBERS OF THIS COMMITTEE, IN THE END IT IS STATE GOVERNMENTS WHICH ARE BEST EQUIPPED TO MAKE AMERICA COMPETITIVE AGAIN BY GIVING HER THE BEST-EDUCATED WORKFORCE IN THE WORLD.

IN INDIANA, WE VIEW THE GLOBAL CHALLENGE WITH UNDIVIDED ATTENTION. LIKE MUCH OF INDUSTRIAL AMERICA, WE'VE ENDURED THE COSTS OF NOT BEING PREPARED. THE RECESSION OF THE EARLY 1980s HIT DOUBLY HARD IN INDIANA, WHERE OUR INDUSTRIAL ECONOMY HAS TRADITIONALLY BEEN TIED TO AUTOMOBILES AND STEEL — TWO INDUSTRIES DEEPLY AFFECTED BY LOW PRODUCTIVITY. LIKE ALL OF OUR MIDWESTERN NEIGHBORS, WE'VE CLAWED OUR WAY BACK, TO THE POINT WHERE TODAY, MORE PEOPLE ARE WORKING IN INDIANA THAN AT ANY TIME IN OUR STATE'S HISTORY. EVEN SO, WE CAN'T AFFORD TO TAKE IT EASY.

THE MEMORIES OF DESPAIR BROUGHT ABOUT BY WRENCHING ECONOMIC CHANGE ARE A GREAT MOTIVATOR FOR UNPRECEDENTED ACTION LIKE PASSAGE OF THE A+ PROGRAM. IF INDIANA IS TO CONTINUE ITS STRONG ECONOMIC GROWTH INTO THE 21st CENTURY, WE MUST PROVIDE OUR FUTURE WORKFORCE WITH A NEW LEVEL OF KNOWLEDGE. WE MUST PREPARE FOR TOMORROW WITH CONSTANTLY IMPROVING PUBLIC EDUCATION. NOT TO DO SO IS SIMPLY TO IGNORE THE OBVIOUS INTERNATIONAL CHALLENGE OF FRIENDS AND ENEMIES ALIKE.

A STEADILY GROWING TRADE DEFICIT, LARGELY CAUSED BY THE INABILITY OF AMERICAN BUSINESS TO EXPORT ITS MANUFACTURED PRODUCTS AS EFFECTIVELY AS GERMANY, JAPAN AND HOLLAND, FOR EXAMPLE, POSES AS SERIOUS A PROBLEM FOR AMERICA AS DOES THE STEADY DECLINE OF MANUFACTURING JOBS. INDEED, AS I TOLD THE INDIANA LEGISLATURE BEFORE MAKING OUR LANDMARK A+ EDUCATION PROPOSAL IN MY STATE OF THE STATE ADDRESS LAST JANUARY: "CLEARLY WE ARE A NATION UNDER ECONOMIC ATTACK AND UNPREPARED FOR THE RIGORS OF INTERNATIONAL COMPETITION. IF WE DO NOT DO SOMETHING NOW TO BECOME COMPETITIVE, THE NEXT GENERATION WILL BECOME THE FIRST IN 15 GENERATIONS OF AMERICANS TO INHERIT A STANDARD OF LIVING LOWER THAN THAT OF THEIR PARENTS."

THAT'S THE RHETORIC. NOW LET ME SHARE A REAL STORY THAT ILLUSTRATES THE IMMENSITY OF OUR CHALLENGE. A COUPLE OF WEEKS AGO, I HOSTED AN EVENT FOR YOUNG BUSINESS LEADERS FROM AROUND THE STATE OF INDIANA. ONE OF THESE GENTLEMEN, WHO IS PRESIDENT OF A MANUFACTURING ENTERPRISE IN A TYPICAL RURAL INDIANA COMMUNITY WITH A STRONG INDUSTRIAL BASE, APPROACHED ME AND SAID, "GOVERNOR, WHAT CAN I DO TO HELP INCREASE THE AMOUNT OF LEARNING THAT GOES ON IN OUR SCHOOLS?"

HE HAD GOOD REASON TO ASK. HIS COMPANY HAD JUST FINISHED INTERVIEWING NEARLY 300 PEOPLE TO FILL 6 JOBS. HE DISCOVERED THAT MOST COULD NEITHER READ THE DIRECTIONS ON JOB APPLICATIONS NOR COULD THEY FILL THEM IN CORRECTLY.

THIS MAN LEARNED FIRST-HAND THE SAD TRUTH THAT WE ARE CONTINUING TO GRADUATE FROM HIGH SCHOOL FAR TOO MANY AMERICANS WHO ARE UNPREPARED TO APPLY FOR A JOB OR TO FULFILL THE FUNDAMENTAL TASKS OF TODAY'S WORKPLACE, LET ALONE TOMORROW'S.

THAT GENTLEMAN ASKED ME THE SAME QUESTION THAT PROVIDES THE THEME FOR TODAY'S HEARING: "WHY DO HIGH SCHOOL STUDENTS FAIL TO MEET THE STANDARD AND WHAT DO WE DO ABOUT IT?"

IN INDIANA, OUR MAIN RESPONSE HAS COME IN THE AREA OF "EARLY PREVENTION" OR "EARLY INTERVENTION." WE BELIEVE THAT THE BEST WAY TO IMPROVE THE QUALITY OF HIGH SCHOOL GRADUATES IS TO GIVE YOUNGSTERS A SOLID EDUCATIONAL FOUNDATION IN THE EARLY YEARS OF SCHOOLING. THREE PARTICULAR FEATURES OF THE A+ PROGRAM PUT THIS PHILOSOPHY INTO ACTION.

FIRST IS THE FULL IMPLEMENTATION, STATEWIDE, OF OUR "PRIME TIME" PROGRAM FOR GRADES K-THROUGH-3. PRIME TIME PROVIDES AN 18-TO-1 PUPIL/TEACHER RATIO IN KINDERGARTEN AND FIRST GRADE, AND A 20-TO-1 RATIO IN SECOND AND THIRD GRADE. THE RESULT, OF COURSE, IS MORE DISCIPLINE AND MORE LEARNING IN THE CLASSROOM. OF EQUAL IMPORTANCE IS THE GREATER INDIVIDUALIZED INSTRUCTION DURING A PERIOD IN A CHILD'S DEVELOPMENT WHEN HE OR SHE IS MOST CAPABLE OF LEARNING.

TEACHERS CAN SPEND TIME ONE-ON-ONE WITH PUPILS, BE IT BRINGING THE LOW ACHIEVERS UP TO SPEED OR CHALLENGING THE ACADEMICALLY TALENTED. IT SIMPLY OPENS THE DOOR TO MORE CREATIVITY.

THE NEW YORK TIMES SINGLED OUT INDIANA FOR PRIME TIME, LISTING IT AMONG THE NATION'S BEST EDUCATION REFORMS OF 1984. SINCE THEN, PRIME TIME HAS CONTINUED TO HELP EQUIP HOOSIER CHILDREN WITH THE SKILLS NEEDED TO LEARN AND RE-LEARN FOR THE REST OF THEIR LIVES. AND, AS I MENTIONED, WITH PASSAGE OF THE A+ PROGRAM, THE BENEFITS OF PRIME TIME ARE AVAILABLE TO NEARLY EVERY PUBLIC SCHOOL STUDENT IN THE EARLY GRADES THROUGHOUT INDIANA.

TWO OF THE MOST IMPORTANT INITIATIVES OF THE A+ PROGRAM — STATEWIDE PROFICIENCY TESTING AND THE ELIMINATION OF "SOCIAL PROMOTIONS" — BUILD UPON THE MOMENTUM FOR CHANGE AND INNOVATION INSPIRED BY THE CLEARLY EVIDENT NEED FOR ADDITIONAL IMPROVEMENT IN THE DELIVERY OF EDUCATION. THE INDIANA STATEWIDE TESTING FOR EDUCATIONAL PROGRESS PROGRAM, OR "ISTEP," WILL BE ADMINISTERED EACH SPRING IN GRADES 1, 2, 3, 6, 8, 9, AND 11. ISTEP IS THE CALIFORNIA ACHIEVEMENT TEST TAILORED TO REFLECT THE CURRICULUM OF INDIANA SCHOOLS AND STANDARD PROFICIENCIES DEVELOPED BY THE INDIANA DEPARTMENT OF EDUCATION.

THOSE STUDENTS WHO SCORE BELOW THE MINIMUM WILL BE REQUIRED TO TAKE SUMMER REMEDIATION AND PASS A DIFFERENT VERSION OF ISTEP BEFORE THEY CAN BE PROMOTED TO THE NEXT GRADE. OUR AIM IS TO MAXIMIZE THE OPPORTUNITY FOR ALL STUDENTS TO KEEP PACE WITH THEIR NORMAL GRADE LEVEL BY ACQUIRING THE NECESSARY LEVEL OF KNOWLEDGE TO DO SO. THIS TECHNIQUE IS PREFERABLE IN EVERY WAY TO THE FALSE ADVANCEMENT ALLOWED BY SOCIAL PROMOTION, A VIRUS WHICH HAS PLAGUED PUBLIC EDUCATION WITH INCREASING IMPACT IN THE LAST GENERATION.

WE BELIEVE OUR EFFORTS TO CURB SOCIAL PROMOTIONS IN INDIANA ARE ESPECIALLY TIMELY IN AN ERA WHEN A COMBINATION OF SOCIETAL CHANGES HAVE HELPED CREATE A WHOLE NEW CLASS OF STUDENTS KNOWN AS "CHILDREN-AT-RISK." IT IS THESE CHILDREN WHO SUFFER THE WORST EFFECTS OF SOCIAL PROMOTIONS.

THEY ARE THERE IN THE CLASSROOM WHEN I VISIT ELEMENTARY SCHOOLS AROUND THE STATE. A LOT OF TIMES, I CAN'T PICK THEM OUT FROM THEIR CLASSMATES. ALL 6- AND 7-YEAR-OLDS HAVE THAT SAME LOOK IN THEIR EYES. SOME KIDS ARE SHY. SOME ARE BOLD. BUT THE EYES ARE ALWAYS THE SAME — HOPEFUL, EAGER, CURIOUS AND EXPECTANT. WHETHER IN A CITY SCHOOL OR RURAL SCHOOL, POOR SCHOOL OR RICH SCHOOL, THE EYES ARE ALWAYS THE SAME.

BUT THE SAD FACT IS, THESE CURIOUS AND EXPECTANT FACES MASK THE TRAGIC FATE THAT AWAITS MANY OF THEM WHO WILL FALL BEHIND EARLY AND NEVER CATCH UP.

THESE ARE THE STUDENTS WE HOPE TO IDENTIFY THROUGH ISTEP, AND GET BACK ON TRACK WITH SUBSEQUENT REMEDIATION.

THE TRAGEDY OF SOCIAL PROMOTIONS MUST END. AMERICA CANNOT TOLERATE A PRACTICE THAT TAKES BRIGHT-EYED YOUNGSTERS AND, IN 12 SHORT YEARS OR LESS, TURNS THEM INTO INCOMPETENT HIGH SCHOOL ALUMNI, OR, WORSE YET, DROPOUTS ALONG THE WAY, ALL OF WHOM WILL BE DESTINED FOR LIFETIME UNDERACHIEVEMENT OR WELFARE ROLLS.

THE POSITIVE EFFECTS OF CATCHING CHILDREN AT-RISK BEFORE THEY FALL THROUGH THE CRACKS WILL SHOW UP IN A BETTER-PREPARED HIGH SCHOOL GRADUATE CAPABLE OF ACQUIRING THE POST-SECONDARY EDUCATION A MORE SOPHISTICATED WORKPLACE WILL DEMAND IN THE FUTURE. KIDS HAVING TROUBLE IN SCHOOL SHOULDN'T BE WRITTEN OFF AND SHOVED THROUGH THE SYSTEM. THEY NEED HELP, AND, IN INDIANA, WE'VE TAKEN STEPS TO PROVIDE IT.

IN ADDITION TO HELPING STOP SOCIAL PROMOTIONS, WE EXPECT THE ISTEP TESTING PROGRAM TO BE OUR PRIMARY MEANS FOR BRINGING MORE ACCOUNTABILITY TO PUBLIC EDUCATION. WE ASKED HOOSIERS TO PAY AN ADDITIONAL $630 MILLION FOR PUBLIC SCHOOLS OVER THE NEXT TWO YEARS. WE RAISED TAXES TO SUPPORT THE MORE STRINGENT REQUIREMENTS OF A+. THEREFORE, WE THOUGHT IT ONLY RIGHT THAT PARENTS AND TAXPAYERS HAVE — FOR THE FIRST TIME — A WAY TO MEASURE PERFORMANCE OF THEIR LOCAL SCHOOLS.

ISTEP RESULTS WILL BE MADE PUBLIC — SCHOOL BUILDING BY SCHOOL BUILDING — SO THAT PARENTS AND TAXPAYERS WILL BE ABLE TO MEASURE THE PERFORMANCE OF THEIR SCHOOL FROM YEAR TO YEAR.

ISTEP SCORES WILL ALSO FIGURE PROMINENTLY IN OUR NEW SYSTEM OF SCHOOL ACCREDITATION, WHICH NOW FOCUSES ON OUTPUTS INSTEAD OF INPUTS ONLY; ON THE DELIVERY OF EDUCATION RATHER THAN A TALLY OF THE ADEQUACY OF BRICKS AND MORTAR OR OTHER TANGIBLE ASSETS.

FINALLY, ISTEP SCORES WILL BE ONE OF FOUR KEY ELEMENTS IN A NEW PERFORMANCE REWARD SYSTEM FOR INDIVIDUAL SCHOOLS. THE OTHERS ARE STUDENT ATTENDANCE RATES, ACHIEVEMENT OF PROFICIENCIES IN ENGLISH AND LANGUAGE ARTS, AND ACHIEVEMENT OF PROFICIENCIES IN MATHEMATICS.

THESE KINDS OF ACCOUNTABILITY FEATURES WERE OPPOSED BY VARIOUS LOBBYING GROUPS MORE CONCERNED IN MAINTAINING THE STATUS QUO THAN IN IMPROVEMENT THROUGH INNOVATION, AS WE FULLY EXPECTED. IT WAS A FULL-COURT PRESS FROM START TO FINISH, EMPLOYING EVERY KNOWN TECHNIQUE OF SUCCESSFUL POLITICAL CAMPAIGNS AND SOME NEW ONES WE INVENTED. THE COST WAS LARGELY BORNE BY A GROUP OF CONCERNED CITIZENS WHO RAISED THE FUNDS TO PAY FOR SUCH ELEMENTS AS THE TV COMMERCIAL I'M ABOUT TO SHARE WITH YOU. (roll tape)

THERE'S MUCH MORE TO THE A+ PROGRAM THAN WHAT I'VE HIGHLIGHTED THIS MORNING. IT ENCOMPASSES 24 NEW AND EXPANDED INITIATIVES, AND, AS I SAID AT THE OUTSET OF MY TESTIMONY, MY WRITTEN COMMENTS PROVIDE MORE DETAIL. YOU SHOULD ALSO HAVE RECEIVED IN ADVANCE THIS PAMPHLET WHICH I HAVE IN MY HAND WHICH PROVIDES BRIEF DESCRIPTIONS OF OUR INITIATIVES.

LET ME AGAIN COMPLIMENT THE COMMITTEE FOR ITS EFFORTS AND THANK YOU FOR INVITING ME TO SHED SOME LIGHT ON SOME VERY EXCITING DEVELOPMENTS IN AMERICA'S HEARTLAND AS INDIANA LEADS THE WAY INTO A CHALLENGING NEW ERA FOR PUBLIC EDUCATION.

## WRITTEN ADDENDUM TO GOVERNOR'S ORAL TESTIMONY

The A+ Program has been crafted with an eye on the 21st Century, mindful of the need for a better educated workforce competitive with any in the world. The paramount goal is to prepare Indiana schoolchildren for vastly different future working conditions, a truly global society and the far tougher competition it will bring.

The marriage of the information age and sophisticated manufacturing processes in the next generation will demand highly knowledgeable people capable of learning new techniques throughout their lives.

Indiana's A+ Program aims to answer the challenge, to give Indiana youngsters a foundation for a lifetime of learning, and a chance to compete in a harsh, unforgiving new world. It is the most sweeping education reform package in Indiana history and the most comprehensive education program enacted by any state legislature in America this year. It compares favorably with top education reform efforts of the decade.

The A+ Program encompasses 24 new and expanded initiatives, developed under the guidance of our fine State Superintendent of Public Instruction, Dr. H. Dean Evans. It will cost $4.5 billion, including an unprecedented increase of $630 million, for the 1987-89 bienneum.

To fund the program, the Indiana General Assembly approved increases in individual and corporate income taxes that will raise $750 million in new revenue over the next two years.

### ACCOUNTABILITY

More than sheer numbers, it's the accountability provisions in the A+ Program that make its adoption so significant. This program doesn't simply increase the flow of new dollars into Indiana schools.

What makes the A+ Program truly historic is that it will change the way schools perform. From now on, and for the first time, schools in Indiana — not school corporations or the whole state system, but individual schools — will be held accountable to parents and taxpayers for their performance. Principals and teachers at local schools will be setting goals and objectives and then will be measured against those and other standards. From now on, the focus in Indiana education will be on measuring results in each school, asking the question: "How well are our kids learning?"

The A+ Program establishes a school accreditation system based on results. For years, Indiana's accreditation system considered only inputs, like whether a school had a full teaching staff, enough classroom space and enough books in the library. Now, outputs such as attendance rates, graduation rates, and reading and math proficiencies will become the key elements of accreditation.

**ISTEP**

The most important performance measurement, though, will be provided by the Indiana Statewide Testing for Educational Progress program, or "ISTEP," a standardized test to be given in seven grades in elementary and high schools. The test is a California Achievement Test tailored to reflect the curriculum of Indiana schools and standard proficiencies developed by the Indiana Department of Education.

Schools meeting expected performance on ISTEP and in these other "output" areas will receive full accreditation, subject to review every five years. Schools not meeting reasonable performance levels will be expected to work with state Department of Education officials, parents and other community leaders to develop improvement plans.

ISTEP scores will also be one of four key elements in a new PERFORMANCE-BASED REWARD system for individual schools. The others are student attendance rates, achievement of proficiencies in English and language arts, and achievement of proficiencies in mathematics.

This "new" idea, which prevails in nearly all fields of American endeavor except public education, will reward schools with extra funds for improved performance. Ten million dollars has been allocated for this program.

Performance-based rewards will not, as some fear, make the state's wealthier school districts richer. The new program is designed to reward improvement. And every school has the potential of receiving a substantial reward for significant improvement over its previous year's performance.

**ISTEP's use, however, will not be limited to state and local education officials. For parents and taxpayers, ISTEP will be the most powerful tool in the accountability toolbox.**

Test results each year will be made public — school building by school building — so parents and taxpayers will have a ruler with which to actually measure performance. We will now have a way to measure a school's performance by the degree of annual improvement in student achievement.

From now on, parents and taxpayers will be able to look at their neighborhood school's performance, compare it to other similar schools, and decide for themselves whether their school measures up.

For parents and taxpayers who live in a district whose school consistently scores lower than schools like theirs, publication of ISTEP results will provide solid grounds for demanding better performance and motivation for getting involved in educational improvement.

Likewise, parents and taxpayers who live in outstanding school districts will be encouraged to reward outstanding performance and support the maintenance of excellence.

Up until now, parents and taxpayers have had no way of knowing if schools, principals and teachers were performing well or poorly. Now they will know. ISTEP will give the public a greater role in public schools. That's what accountability is all about.

## REMEDIATION

ISTEP will also be a key diagnostic tool for educators. The test will be given each spring in grades 1, 2, 3, 6, 8, 9, and 11, with mandatory summer remediation to follow for those students who score below the minimum. This will work as a safety net, identifying students who need help early in their academic lives, before they slip through the cracks. It will help put a stop to the practice of "social promotions," where children are shoved through the system even if they haven't earned a promotion to the next grade. Too many of these students today end up dropping out of school. ISTEP and remediation aim to keep them on course from the time they enter the public school system until they leave with a diploma.

To further discourage social promotions, the state may withhold funds from school corporations that continue to socially promote students. There are, however, waiver provisions included in the bill which are designed to preserve some flexibility for local school officials in deciding who must repeat a grade.

## BETTER PRINCIPALS

Accountability in education will mean even greater responsibility for individual school building principals — the most important people in public education. They are the "CEOs," the instructional leaders who set the tone for what goes on within a school's walls. It is absolutely essential that they receive the best training possible.

To assure they get it, the A+ Program secured continued funding for the Indiana Principal Leadership Academy, a program established two years ago, at my urging, to provide advanced training in instructional leadership and improve school management skills for Indiana public school principals. The academy is a two-year program, involving 18 days of training for about 200 principals a year.

## OTHER KEY INITIATIVES

Other key facets of the A+ Program include:

- Expansion of Project Prime Time, our landmark program to reduce class size in early grades. (Prime Time mandates an 18-to-1 pupil/teacher ratio in kindergarten and first grade, and a 20-to-1 ratio in second and third grade. Research shows that smaller class sizes are uniquely important in the early grades);
- Lengthening the school year by five days and requiring that lost days be made up. (Until the A+ Program was passed, Indiana had the shortest school year in the country);
- Required annual performance evaluations for teachers and principals;
- Increased funding for gifted and talented programs;
- Expanded programs using computers in the classroom;
- An Educational Opportunity Program for "at-risk" students (with an appropriation of $20 million);
- A minority teacher recruitment program;
- Financing of textbooks for children qualifying for U.S. free lunches;
- New programs to teach Indiana students the history, culture and language of Japan and China, and;
- A beginning teacher internship program requiring all new teachers to spend a year as an intern teacher under the supervision of a mentor teacher before full certification.

## THE FOUNDATION

The A+ Program builds upon a series of other education reforms enacted earlier in the Orr Administration. Education was our top priority long before the A+ Program was ever proposed. In fact, a recent New York Times article ranked Indiana third in the country in the percentage increase in revenue per pupil for public school from 1983-86. That doesn't include the record increases approved by this year's legislature.

During the four years before the 1987 General Assembly session, more education reforms and school improvement initiatives were enacted than in any period in the last 50 years. These included:

- Prime Time;
- Increased high school graduation requirements for the first time in 50 years. Extra year of English added and the number of science and math credits needed for graduation doubled;
- Student competency testing at 3rd, 6th and 8th grades, with remediation for those in need;
- Increased state funding for education by 13 percent in the midst of the 1981-83 recession. (Indiana was among only a handful of states to do so);

- The Indiana Consortium for Computer and High Technology Education. Indiana's computer instructional programs have been ranked in the top 10 in the nation by Electronic Learning Magazine. The state has loaned nearly $20 million to local schools for computers in the classroom;
- The Principal Leadership Academy;
- The Indiana College Placement Assessment Center to evaluate basic skills of prospective college students before graduation from high school. Goal is for parents, teachers and guidance counselors to know specifically where each student needs to improve to be successful in college;
- Restructured the State Board of Education and appointed a top-flight professional educator, Dr. H. Dean Evans, as superintendent of public instruction.

This fall, we have followed up on passage of the A+ Program with a second campaign to insure its successful implementation. A series of 10 public hearings have been held around the state to familiarize Hoosiers with the new program.

We've organized a group of volunteers known as "Hoosiers for Better Schools" to help insure the program's proper implementation.

I've continued my practice of visiting at least one school per week.

We've put together a first-class brochure explaining the new initiatives and continue to circulate it all over Indiana.

My office is publishing periodic newsletters tracking the program's implementation for parents, newspaper editors, teachers and administrators.

A series of television public service announcements encouraging public support and involvement in education are in production and will begin airing before the year is out.

In short, we have not walked away from education just because the legislature passed some new laws. There is much work still to be done — both in Indiana and throughout the country — if America is to have the kind of workforce it needs to compete successfully in the global economy.

Representative SCHEUER. We are very happy to have you, Speaker Katz, and please take the same 8 or 10 minutes and speak to us informally. Your prepared statement will be printed in the record. And after you have chatted with us for 8 or 10 minutes, I am sure we will have some questions for both of you.

## STATEMENT OF HON. VERA KATZ, SPEAKER, OREGON HOUSE OF REPRESENTATIVES

Ms. KATZ. Thank you, Mr. Chairman, members of the subcommittee, Congressman Wyden.

Thank you for the opportunity to share some of my perspectives with you this morning. I wear several hats. I am the only Democratic speaker—and one of two—women speakers—in the country. I am also a community college administrator. I am a member of the Carnegie Task Force on Teaching as a Profession, and currently serve on the National Board for Professional Teaching Standards.

Representative SCHEUER. I might say that all of our witnesses today are members of that Board for Professional Teaching Standards.

Ms. KATZ. I am aware of that. I have been asked to talk about the issue of restructuring schools, the political problems that we face at the local level in doing that, and the role of the Federal Government in assisting us.

We have heard a lot about the 25 to 30 percent who dropout from high school, what we call the "disappeared" of our educational system. But I would like to focus some of my remarks today on a larger group, the educationally disengaged. They go to high school, they graduate, some of them even go to college and receive diplomas. But in today's economy they are not considered successes because many of these young people are already doomed to failure and frustration. Many are functionally illiterate, and lack basic and critical thinking skills that are essential to building a new American economy that can out think—because we can never outbid—our competitors.

We all know that because of technological changes, new jobs will appear, and old jobs will disappear overnight. The need for "occupational agility," and meeting the needs that we are going to have of these workers, means that the quality and rigor of their education will even be more critical in the years ahead.

I would like to point to several issues. First, we need to understand the demographics and some of the obstacles that lie in our path. Half of our teachers are projected to leave the teaching profession in the next 8 years. During that same period, our traditional recruiting pool of college graduates will steadily shrink. We must resist the temptations of lowering the standards. Instead, we must raise the standards and raise the expectations for tomorrow's teachers.

A uniform national benchmark of real quality and high professional expectations is an essential ingredient to our shared vision of educational excellence. That is why the Carnegie proposal for a National Board of Teaching Standards is so critical to this Nation.

The demographics of our student population pose similar challenges to us as a nation. Those students who now have the most difficulty in school—Spanish-speaking, minorities, children in poverty—are also those whose numbers will swell in the coming years.

Today, one in five children live in poverty. One in two will live with a single parent before they are 18. And by the year 2000, nearly 40 percent of our students will be minorities. We will be hard-pressed just to stay where we are. Yet that is a prescription for social injustice and economic disaster.

Demographics will also affect how we finance the necessary investments in educational excellence. For the next decade, for the fastest growing group, Americans who are 50 and older, the question is: Will these citizens provide the political and financial support to ensure the continued prosperity of the younger generation? Will they continue that social contract where they pay for the education of the young and the young pay for their retirement?

The second point I want to make is that while our expectations have never been higher for our schools, they will be higher in the years to come. To ask too little from our schools and our students is to doom a generation of Americans to second-class status in tomorrow's economy.

We know from the experience of a few exceptional leaders that ordinary, or what we call deprived students, are capable of doing more than what is usually expected of them.

One dramatic example is George Washington Preparatory School in central Los Angeles where the student body is 90 percent black, 10 percent Hispanic and where, after 3 hard long years, the principal dropped the absenteeism rate to 30 percent, and 70 percent—70 percent—of their graduates go on to college.

Now, he had to do more than just manage better. He demanded more. He demanded more out of his teachers, and many of them left the school. Teachers were told they had to assign homework. It was mandatory that every child had homework. He demanded that parents come to the classroom and if they didn't come he would phone them, not using a recording machine, but other parents to phone them.

D was not considered a passing grade. A C represented a student at risk. And brighter students had a moral obligation, a community obligation to mentor and tutor their slower peers.

Unfortunately, the far more typical high school is the one that is described in "The Shopping Mall High School" where most students are taking a course here, taking a course there, not enrolled in a vocational track, not enrolled in an academic track, inhabiting an eductional no man's land known as general education.

They drift quietly from course to course, year to year. They are never expected or encouraged to excel, and they get by. The fault lies not with the students but in our low expectations of them.

The assumption that only the college bound need higher schools is elitist, shortsighted, and a sure prescription for continued economic decline.

In essence, we must be more democratic in our high expectations of students. The assumption that increased expectations will turn off students and increase the dropout rate and an abdication of educational responsibility—and un-American.

This leads me to my third point, the need for State policymakers and local school districts to be bold, to be innovative, and to be creative in restructuring the American school—the same testimony we just heard from the Governor of Indiana.

In many respects, our schools reflect a 19th century mentality—witness the 180-day calendar year—overlaid by 1950's management style that has already brought so many American businesses to the brink of disaster.

Some exciting initiatives are taking place around the country. I am sure you have heard many of them during your testimony. You heard one this morning. Schools are exploring a lot of the models that the Carnegie Task Force discussed in great detail, giving teachers and the community, and even students real power to set educational goals in their own buildings and the responsibility for meeting those goals, and providing rewards to the schools and to the staff, based on their performance in student progress.

In Oregon, as in other States, our initiative just passed the last legislative session where we had a mentoring teacher program to help beginning teachers; an Oregon Teachers Corp., very similar to the one that Congressman Wyden passed here on the Federal level, that provided forgivable loans to the best and the brightest to go into the teaching profession; and a special pilot program to provide more accountability and new career opportunities for teachers using a school site committee model.

Just as important are new initiatives that attempt to forge links between high schools and community colleges. While up to 90 percent of the new jobs created by the year 2000 will be service jobs, most are not Wendy's and McDonald's fast-food jobs. They are "thinking service" jobs and they will require some postsecondary education.

The concept of Two Plus Two is an exciting idea, to give students a combination of sound academic and vocational training. The key point in this educational program is the beginning of the 11th grade where the general track student begins to prepare for entrance into a community college curriculum that will help them move directly into either a 1- or 2-year degree program with a diploma, prepared for broad-based occupational skills.

Now, the political problems are many. The challenge is to engage and mobilize the ranks of taxpayers, business, parents, teachers; to move the vision of an educational renaissance out of the blue ribbon reports and into the classroom.

As political leaders, our message must be clear, relentless, and persistent. To the three-fourths of our taxpayers who don't have any children in school, our message must be that their future is connected to the quality of schools in their community and across the Nation.

To business leaders and to labor, our message must be clear that the price of mediocre or failing schools will mean economic stagnation and decline for them.

To parents, our message must be that signing report cards is no substitute for making their presence directly felt in the school building and in the classroom.

And to the rank and file teachers, our message must be that it is time to let their own leadership know that they are ready to rethink long-held ideological beliefs about teacher-management relations; that they are ready for more professional responsibility and, with it, increased accountability for the performance of their schools and for the performance of their students.

Our job as political leaders, however, also requires long-term thinking. Legislatures, like most political institutions, operate, unfortunately, on a short-time horizon. Yet this revolution of rising expectations that must take place school-by-school, State-by-State, is a long-term prospect.

I see two main roles for the Federal Government. First, it has got to be supportive of the pioneers of educational reform who have taken the risks, the political risks, and who have challenged the lazy orthodoxies of the educational establishment.

Second, be creative about how you can use your limited resources to zero in on elements of the State's long-term goals.

Despite the central role that community colleges play in these efforts, more than 95 percent of the Federal budget, however, goes to 4-year colleges and universities. The vast majority of the Federal categorical aid for K through 12 is disbursed in proportion to a district's underachieving schools and students. What incentive is there for real progress?

I know better than anybody in Oregon that financial resources are limited. But why not provide for more incentives for the progress of these schools and students, especially those of low income?

There is a special urgency to what in my mind is America's most important public policy challenge for the remainder of the century. I urge you to be bold, to be supportive wherever you can be, and above all, keep this issue in the forefront, in the limelight, and be persistent. It has got to pay off.

[The prepared statement of Ms. Katz follows:]

## PREPARED STATEMENT OF HON. VERA KATZ

MY NAME IS VERA KATZ, SPEAKER OF THE OREGON HOUSE OF REPRESENTATIVES. I AM ALSO AN ADMINISTRATOR AT PORTLAND COMMUNITY COLLEGE IN PORTLAND OREGON; A MEMBER OF THE CARNEGIE TASK FORCE ON THE TEACHING PROFESSION, AND A DIRECTOR OF THE NEWLY-CREATED NATIONAL BOARD FOR TEACHING STANDARDS.

THANK YOU FOR THIS OPPORTUNITY TO SHARE MY PERSPECTIVE ON EDUCATIONAL EXCELLENCE AND BUILDING A QUALITY WORKFORCE.

I ESPECIALLY COMMEND THE J.E.C. FOR ITS FOCUS IN THESE HEARINGS: THE EDUCATIONAL NEEDS OF AMERICA'S "LINE WORKERS," THE MILLIONS OF TECHNICIANS AND OTHER WORKERS WHO WILL BE THE FOOT SOLDIER'S IN TOMORROW'S ECONOMY.

NEVER IN OUR NATION'S HISTORY HAVE WE DEMANDED SO MUCH OF OUR SCHOOLS. YET IN THE YEARS AHEAD, OUR EXPECTATIONS WILL BE -- AND MUST BE -- EVEN HIGHER.

POLICY MAKERS ALSO NEED TO RECOGNIZE THAT MAJOR OBSTACLES LIE IN OUR PATH.

AS SPEAKER, AND AS A COMMUNITY COLLEGE ADMINISTRATOR, I HAVE TRIED TO ANALYZE SOME FUTURE DEMOGRAPHIC AND POLITICAL TRENDS TO DETERMINE HOW THEY MIGHT AFFECT OUR EFFORTS TO REVITALIZE THE SCHOOLS.

TO TAKE FULL ADVANTAGE OF OUR OPPORTUNITIES, WE NEED TO RECOGNIZE THAT HOW SOME OF THOSE TRENDS MAY CLASH WITH OUR HIGHER EXPECTATIONS -- FOR OUR EDUCATORS, OUR STUDENTS, AND OUR TAXPAYERS.

CONSIDER OUR EXPECTATIONS FOR OUR TEACHERS. THE CARNEGIE REPORT SPOKE ELOQUENTLY OF OUR NEED TO RECRUIT MORE CAPABLE PEOPLE TO THE PROFESSION; TO REFORM TEACHER EDUCATION; TO HOLD TEACHERS TO HIGHER STANDARDS OF ACCOUNTABILITY; AND TO RESTRUCTURE THE PROFESSION SO THAT TEACHERS RECEIVE BETTER PAY AND MORE RESPONSIBILITY.

IN THE NEXT 8 YEARS, APPROXIMATELY HALF OUR TEACHING FORCE WILL RETIRE, MAKING THIS AN EXCELLENT TIME TO RAISE OUR EXPECTATIONS.

YET IT IS ALSO A DANGEROUS TIME. DURING THIS PERIOD, OUR TRADITIONAL RECRUITING POOL -- RECENT COLLEGE GRADUATES -- WILL BE DROPPING BY MORE THAN 15%. COMPETITION FOR THE COLLEGE GRADUATES OF THE "BABY BUST" GENERATION IS ALREADY KEEN, AND TALK OF "LABOR SHORTAGES" AMONG THIS AGE GROUP IS NOW COMMON.

FILLING OUR EMPTY TEACHING SLOTS WILL REQUIRE EXTRA EFFORT. WE MUST RESIST THE INEVITABLE PRESSURE TO LOWER PERFORMANCE STANDARDS FOR TEACHERS -- LEST WE UNDO MUCH OF WHAT WE'VE ACCOMPLISHED SO FAR.

SECOND, CONSIDER OUR EXPECTATIONS OF STUDENTS.

A JAPANESE 9TH GRADER WILL HAVE ALREADY SPENT AS MUCH TIME IN SCHOOL AS AN AMERICAN 12TH GRADER. AMERICAN STUDENTS' SORRY PERFORMANCE IN INTERNATIONAL COMPARISONS -- ESPECIALLY IN MATH AND SCIENCE -- NEED NOT BE BELABORED HERE.

GENERALLY MEANING WELL, AND IN THE NAME OF "UNDERSTANDING," MY GENERATION HAS DONE SOMETHING SHAMEFUL. IT HAS ASKED -- AND EXPECTED -- TOO LITTLE OF OUR STUDENTS. IT HAS SOLD THEM SHORT -- AND THE FULL CONSEQUENCES OF THAT CANNOT HELP BUT GIVE US PAUSE.

WE KNOW FROM THE EXPERIENCE OF A FEW EXCEPTIONAL LEADERS THAT "ORDINARY" AND "DEPRIVED" STUDENTS ARE CAPABLE OF DOING FAR BETTER THAN IS OFTEN EXPECTED. ONE DRAMATIC EXAMPLE IS GEORGE WASHINGTON PREPATORY HIGH SCHOOL IN CENTRAL LOS ANGELES, A SCHOOL WHOSE STUDENT BODY IS 90% BLACK, 10% HISPANIC, AND PREDOMINANTLY LOW-INCOME.

IN THE LAST EIGHT YEARS, PRINCIPAL GEORGE MCKENNA, HIS STAFF, AND INVOLVED PARENTS HAVE TAKEN A SCHOOL THAT WAS ONCE BLIGHTED WITH 33% ABSENTEEISM AND OPEN GANG CONFLICT AND TURNED IT INTO A SHOWCASE OF WHAT IS POSSIBLE. TODAY, ABSENTEEISM IS LESS THAN 10%, AND 70% OF THE GRADUATES GO TO COLLEGE. OVER 2800 KIDS NOW ATTEND THE SCHOOL, UP FROM 1800 -- AND THERE IS A WAITING LIST.

HOWEVER, GEORGE WASHINGTON HIGH SCHOOL IS STILL THE EXCEPTION, NOT THE RULE. AND A LOOK AT SOME DEMOGRAPHIC TRENDS SHOWS HOW MUCH WE HAVE OUR WORK CUT OUT FOR US.

IN PARTICULAR, IT'S CLEAR THAT THE STUDENTS WHOM OUR SCHOOLS NOW FAIL THE MOST -- RECENT IMMIGRANTS, MINORITIES, CHILDREN IN POVERTY -- ARE ALSO THOSE WHOSE NUMBERS WILL SWELL IN COMING YEARS.

ONE IN FIVE SCHOOL CHILDREN NOW LIVES IN POVERTY. ONE IN TWO WILL, AT SOME POINT, LIVE WITH JUST A SINGLE PARENT. BY THE YEAR 2000, ONLY 15% OF OUR NEW WORKERS WILL BE AMERICAN-BORN, WHITE MALES.

TO STAND STILL IS TO FALL FURTHER AND FURTHER BEHIND.

INDEED, THERE'S ALREADY EVIDENCE THAT WE'RE LOSING GROUND WITH MANY OF THESE STUDENTS. FEWER BLACKS NOW GO ON TO COLLEGE THAN DID A DECADE AGO. IN PORTLAND, OREGON, ALMOST 30% OF OUR HISPANIC STUDENTS DROP OUT JUST IN 12TH GRADE. MANY MORE DROP OUT BEFORE THEN.

RECENTLY, THE SUPERINTENDENT OF PORTLAND'S SCHOOL DISTRICT -- WHO HIMSELF IS BLACK -- PREDICTED THAT "WITHOUT DRAMATIC CHANGES IN THE ECONOMY," IT WOULD TAKE BLACK STUDENTS MORE THAN 30 YEARS TO CATCH UP TO THEIR WHITE COUNTERPARTS IN ACHIEVEMENT IN MATH AND READING.

I DON'T NEED TO EMPHASIZE HOW UNFAIR THAT IS TO THOSE STUDENTS -- AND HOW SELF-DEFEATING FOR ALL OF US.

THIRD, WE MUST RECONCILE OUR HIGHER EXPECTATIONS FOR TAXPAYERS WITH THE REALITIES OF OUR FEDERAL DEFICIT, AND AN AGING POPULATION.

TO TALK ABOUT "INVESTING IN EDUCATION" IS TO HAVE A CONVERSATION IN WHICH THE FEDERAL GOVERNMENT IS LARGELY AN EAVESDROPPER. STATE AND LOCAL GOVERNMENTS PAY 95% OF OUR $300 BILLION BILL FOR K-12 EDUCATION -- AND THAT'S NOT GOING TO CHANGE MUCH.

BUT HERE AGAIN, OUR TIMING IS POOR -- AND MUCH OF IT IS THE FAULT OF THE FEDERAL GOVERNMENT.

MY MOST IMMEDIATE FEAR IS THAT IRRESPONSIBLE DEFICITS WILL CAUSE ANOTHER SERIOUS RECESSION -- AND WIPE OUT MANY OF THE GAINS WE'VE MADE SO FAR.

PERHAPS WORSE THAT THE DEFICIT'S SIZE IS HOW WE'VE SPENT OUR BORROWED MONEY. WE HAVE NOT INVESTED THE MONEY TO ENSURE TOMORROW'S PROSPERITY -- THROUGH REPAIRING OUR ROADS, UPGRADING OUR FACTORIES, OR IMPROVING OUR SCHOOLS. INSTEAD, WE'VE BORROWED IT LARGELY TO SATISFY TODAY'S APPETITE FOR CONSUMPTION.

AND, THROUGH INFLATION-INDEXED ENTITLEMENT PROGRAMS THAT NOW CONSUME $400 BILLION A YEAR, WE HAVE EFFECTIVELY "DE-COUPLED" THE ECONOMIC SELF-INTEREST OF OUR OLDEST GENERATION FROM THAT OF OUR YOUNGEST. ONE IS LARGELY INSULATED; THE OTHER IS FULLY EXPOSED TO THE UNCERTAIN CURRENTS OF TOMORROW'S ECONOMY.

THIS DIVERGENCE OF INTERESTS IS UNPRECEDENTED IN AMERICAN HISTORY -- AND VERY DANGEROUS.

WILL MY GENERATION SUPPORT THE NECESSARY INVESTMENTS WE NEED TO MAKE OUR INDUSTRIES COMPETITIVE IN A WORLD ECONOMY? THERE'S LITTLE DOUBT THAT WE CAN AFFORD IT. THE ELDERLY ARE NOW BETTER OFF THAN THE POPULATION AS A WHOLE; A CHILD TODAY IS 6 TIMES MORE LIKELY TO LIVE IN POVERTY THAN A SENIOR. BUT THE ANSWER IS FAR FROM CERTAIN.

POLICY MAKERS NEED TO RECOGNIZE THESE REALITIES. STILL, FOR ALL MY OWN RESERVATIONS, I AM EXCITED ABOUT THE OPPORTUNITIES WE HAVE, ESPECIALLY WHEN IT COMES TO RESTRUCTURING AMERICAN EDUCATION TO MEET THE NEEDS OF THE WORKERS WE'RE DISCUSSING TODAY.

FIRST, AN OBSERVATION. IN MANY RESPECTS, OUR SCHOOLS ARE STRUCTURED ON A 19TH CENTURY CALENDAR, OVERLAID WITH A 1950s STYLE OF MANAGEMENT.

THE 180 DAY SCHOOL YEAR HAD ITS ORIGINS IN THE NEED FOR SUMMER HELP ON THE FARM. YET LESS THAN 3% OF AMERICANS TODAY ARE EMPLOYED BY AGRICULTURE.

THE "BIGGER IS BETTER" MENTALITY OF LARGE SCHOOL BUILDINGS; THE RIGID COMPARTMENTALIZATION OF SUBJECTS; AND THE "TOP-DOWN" HIERARCHY OF SCHOOL MANAGEMENT REFLECTS A BUREAUCRATIC STYLE THAT HAS CONTRIBUTED MIGHTILY TO THE DECLINE OF MANY AMERICAN INDUSTRIES IN RECENT YEARS.

IN PARTICULAR, OUR CURRENT SCHOOL STRUCTURE IS TOO OFTEN ILL-SUITED TO THE NEEDS OF THE "AVERAGE" STUDENT, AS GRAPHICALLY DESCRIBED IN AN IMPORTANT BOOK BY ARTHUR POWELL, ELEANOR FARRAR, AND DAVID K. COHEN ENTITLED "THE SHOPPING MALL HIGH SCHOOL."

THE TITLE IS EVOCATIVE OF THE HIGH SCHOOLS OF 1,000 TO 5,000 STUDENTS THAT DOT THE AMERICAN LANDSCAPE, AND WHICH OFFER A VERITABLE "SMORGASBORD" OF COURSES TO STUDENTS. FOR MANY, THE CHOICES ARE OVERWHELMING; OFTEN, EXTRACURRICULAR ACTIVITIES ARE AWARDED CREDIT TOWARDS GRADUATION.

WE KNOW THAT ABOUT 30% OF ALL HIGH SCHOOL STUDENTS DROP OUT, MANY FROM HIGH SCHOOLS LIKE THESE, AND BECOME THE "DISAPPEARED" OF OUR EDUCATIONAL SYSTEM.

BUT AN EVEN LARGER NUMBER FALL INTO THE RANKS OF WHAT COULD BE CALLED THE "DISENGAGED."

THESE ARE THE STUDENTS WHO DRIFT QUIETLY FROM COURSE TO COURSE, THEIR PASSIVE BEHAVIOR ATTRACTING LITTLE ATTENTION. NEVER EXPECTED OR ENCOURAGED TO EXCEL, THEY DO THE MINIMUM TO GET BY.

THESE STUDENTS GRADUATE; BY THEIR DIPLOMAS THEY ARE DEEMED "SUCCESSES." YET ONCE IN THE REAL WORLD, MANY DISCOVER, TO THEIR DISMAY, THAT THEIR LACK OF BASIC SKILLS -- NOT TO MENTION HIGHER ORDER SKILLS -- SETS THEM ADRIFT IN TODAY'S JOB MARKET. SOME BARELY GET BY. OTHERS FLOUNDER OR GET STUCK. STILL OTHERS FALL INTO THE FRAIL SAFETY NET OF GOVERNMENT DEPENDENCE.

IN THE NAME OF DIVERSITY, TOO MANY OF OUR HIGH SCHOOLS BREED PASSIVITY. THERE IS "NO THERE, THERE" AS THE FALSE PROMISE OF "CHOICE" DISGUISES BROKEN PROMISES OF A MORE IMPORTANT SORT.

THE FAULT IS NOT IN OUR STUDENTS -- BUT OUR FAILURE TO EXPECT ENOUGH OF THEM. AS POWELL OBSERVES, "WE HAVE BEEN ABLE...TO EXTEND HIGH SCHOOL TO ALL TEENAGERS WITHOUT ANY ACCOMPANYING BELIEF THAT MOST NEED -- OR ARE CAPABLE OF -- STUDIES THAT PROMOTE SERIOUS LEARNING: AT A MINIMUM, THE CAPACITIES TO READ, TO WRITE CLEARLY, AND TO REASON WITH SOME COGENCY."

THE SHOPPING MALL HIGH SCHOOL IS JUST ONE MANIFESTATION OF THE PROBLEM. BUT IT CONVEYS AN IMPORTANT POINT -- HOW THE STRUCTURE OF THE SCHOOL UNDERMINES OUR EFFORTS TO ADDRESS THE NEEDS OF A "QUALITY WORK FORCE."

FORTUNATELY, MANY RECOGNIZE THE PROBLEM, AND ARE TRYING TO DO SOMETHING ABOUT IT.

FOR EXAMPLE, TED SIZER, CHAIRMAN OF BROWN'S EDUCATION DEPARTMENT, HAS A VERY EXCITING INITIATIVE GOING WITH HIS "COALITION OF ESSENTIAL SCHOOLS." ELEVEN CHARTER HIGH SCHOOLS AROUND THE COUNTRY ARE ATTEMPTING NOTHING LESS THAN REVOLUTIONIZING HOW WE THINK ABOUT HIGH SCHOOL EDUCATION.

WHAT IS SIZER, AND OTHERS, INCLUDING THE "CARNEGIE SCHOOLS" PROJECT, DOING?

GIVING TEACHERS -- AND STUDENTS -- REAL RESPONSIBILITY FOR SETTING EDUCATIONAL GOALS, AND MEETING THEM.

ABOLISHING THE TYRANNY OF THE 55-MINUTE PERIOD, AND EXPERIMENTING WITH INTEGRATED PROGRAMS ACROSS MANY DISCIPLINES.

CREATING SMALL "SCHOOLS WITHIN A SCHOOL" TO ALLOW "AVERAGE" STUDENTS TO EXCEL, AND BE EXCEPTIONAL.

OREGON, I'M PROUD TO SAY, IS PART OF THIS EFFORT. IN 1987 OUR LEGISLATURE ENACTED AN EDUCATIONAL EXCELLENCE BILL THAT INCLUDES GRANTS FOR PILOT PROGRAMS AIMED AT RESTRUCTURING SCHOOL MANAGEMENT AND PROVIDING NEW CAREER OPPORTUNITIES FOR TEACHERS.

UNDER THIS PROGRAM, WHICH WAS DESIGNED BY A SPECIAL CITIZENS COMMITTEE COMPOSED LARGELY OF TEACHERS, "SCHOOL SITE COMMITTEES" OF TEACHERS, ADMINISTRATORS, AND CITIZENS WILL ESTABLISH GOALS FOR THEIR SCHOOLS; MEASURE PROGRESS AGAINST THOSE GOALS; AND GIVE OUTSTANDING TEACHERS MORE OPPORTUNITIES TO BE RECOGNIZED AND REWARDED.

DOWN THE ROAD, WE MAY WANT TO REWARD ENTIRE SCHOOL FACULTIES IF THEY DO WELL IN MEETING THEIR GOALS.

BY ADDRESSING THE NEEDS OF TEACHERS WHO THEMSELVES FEEL "DISENGAGED" BECAUSE THEY'VE TOPPED OUT IN THEIR SALARY SCHEDULES...AND FORGING NEW LINKS BETWEEN SCHOOLS AND THE COMMUNITY...WE HOPE TO DO A BETTER JOB OF ENGAGING THE "DISENGAGED" STUDENTS I'VE DESCRIBED.

THIS EFFORT TO INTRODUCE AN ELEMENT OF "SHOP FLOOR DEMOCRACY" INTO OUR SCHOOLS IS VERY EXCITING -- AND PARALLELS SIMILAR EFFORTS THROUGHOUT AMERICAN INDUSTRY.

AN EVEN MORE AMBITIOUS APPROACH CENTERS ON THE COMMUNITY COLLEGE IN SOMETHING THAT'S KNOWN AS THE "2 PLUS 2" PLAN.

MOST AMERICAN HIGH SCHOOLS PLACE STUDENTS IN ONE OF THREE TRACKS: VOCATIONAL, ACADEMIC, OR "GENERAL." AS POWELL AND OTHERS POINT OUT, ALL TOO OFTEN THE "GENERAL" TRACK IS THE EDUCATIONAL NO-MAN'S LAND OF THE MODERN HIGH SCHOOL. IT IS NEITHER ACADEMIC NOR VOCATIONAL -- AT A TIME WHEN MANY OF OUR JOBS ARE DEMANDING A SOUND BACKGROUND IN BOTH AREAS.

THIS MISMATCH BECOMES READILY APPARENT WHEN WE LOOK AT THE KINDS OF JOBS THAT TOMORROW'S WORKERS WILL ENTER.

FOR EXAMPLE, MANY FORECASTERS PREDICT THAT 90% OF THE NEW JOBS CREATED BETWEEN NOW AND THE YEAR 2000 WILL BE IN THE "SERVICE SECTOR."

TAKE A CLOSER LOOK, AND IT BECOMES CLEAR THAT MOST OF THESE OPPORTUNITIES WILL NOT BE MINIMUM WAGE JOBS AT FAST FOOD RESTAURANTS. CALL THEM "THINKING SERVICE" JOBS -- BECAUSE THEY WILL INCREASINGLY REQUIRE BASIC AND ADVANCED SKILLS.

THE FASTEST 20 GROWING OCCUPATIONS THROUGH 1995 INCLUDE SUCH FIELDS AS COMPUTER SCIENCE TECHNICIAN, OFFICE MACHINE SERVICE TECHNICIAN, ENGINEERING TECHNICIAN, BANKING AND INSURANCE PERSONNEL. ALL 20 FIELDS "PREFER" SOME POST SECONDARY EDUCATION.

THE DEMOGRAPHIC AND EMPLOYMENT TRENDS ALSO TELL US THAT TOMORROW'S OCCUPATIONAL WORLD WILL BE, IN MANY RESPECTS, A "MOVING TARGET." A POPULAR JOB TODAY MAY DISAPPEAR OVERNIGHT, A VICTIM OF NEW TECHNOLOGY OR FOREIGN TRADE. LOOK AT THE THOUSANDS OF STEELWORKERS WHO NOW WORK AS WELDERS, FABRICATORS, EVEN AS MEDICAL TECHNICIANS.

MORE LIKELY FOR MOST WORKERS, TECHNOLOGICAL ADVANCES WILL DRAMATICALLY CHANGE THE DAILY NATURE OF EXISTING JOBS. WORKERS WILL STAY WITHIN A GENERAL FIELD -- BUT THEIR DAILY TASKS WILL DRAMATICALLY CHANGE.

STENOGRAPHERS WILL BECOME WORD PROCESSORS; BOOKKEEPERS WILL FORSAKE THE LEDGER FOR THE PC AND THE SPREAD SHEET; ELECTRONIC TECHNICIANS WILL BECOME COMPUTER REPAIRERS.

ONE MAJOR LESSON I DRAW FROM THESE TRENDS IS THAT THE "GENERALIST" -- ONCE CONSIDERED AN ENDANGERED SPECIES IN OUR OCCUPATIONAL WORLD -- WILL ONCE AGAIN BE IN DEMAND. THE NEEDS OF OUR NEW ECONOMY DEMAND IT -- AND SO SHOULD TOMORROW'S WORKER.

ON THIS LATTER POINT, CONSIDER THE CURRENT EMPLOYMENT PICTURE: A "LABOR SHORTAGE" FOR TWENTY YEAR OLDS, YET INCREASING "CONGESTION" AMONG 40-YEAR OLDS AS COMPANIES STREAMLINE THEIR OPERATIONS. YOUNG WORKERS MAY FIND IT EASIER TODAY TO GET ON THE LADDER'S BOTTOM RUNG -- BUT MUCH HARDER TO MAKE THEIR WAY UPWARD.

WHAT SEEMS TO BE CALLED FOR IS "OCCUPATIONAL AGILITY." WORKERS INCREASINGLY WILL DEMAND THE TYPE OF BROAD EDUCATIONAL BACKGROUND THAT WILL ALLOW THEM TO MOVE QUICKLY TO TAKE ADVANTAGE OF BETTER OPPORTUNITIES IN A RELATED OR DIFFERENT FIELD. THAT SIMPLY UNDERSCORES THE NEED FOR A RICH EDUCATIONAL FOUNDATION UPON WHICH TO BUILD.

THE "2 PLUS 2 APPROACH" IS TAILOR-MADE FOR THESE WORKERS.

THE KEY JUNCTURE IN THIS VISION IS THE BEGINNING OF 11TH GRADE. AT THIS POINT, SOME STUDENTS WOULD DECIDE TO FORMALLY EMBARK ON A TRAJECTORY THAT WILL TAKE THEM TO A REGULAR COLLEGE OR UNIVERSITY. OTHERS WILL CHOOSE A TRAJECTORY THAT WOULD PUT THEM INTO THE WORKING WORLD IMMEDIATELY AFTER GRADUATION.

BUT OTHERS -- AND THIS IS THE TARGET GROUP -- WOULD CHOOSE A TRAJECTORY IN WHICH THEY'D SPEND THEIR JUNIOR AND SENIOR YEARS ON ACADEMIC COURSEWORK, AND ON WORK THAT WOULD RESULT IN COMMUNITY COLLEGE CREDIT. AFTER FINISHING THEIR TWO YEARS IN HIGH SCHOOL, THEY'D THEN MOVE ON TO A TWO-YEAR DEGREE PROGRAM AT A COMMUNITY COLLEGE IN A BROAD OCCUPATIONAL FIELD.

FOR EXAMPLE, IN THE HIGH SCHOOLS OF SALEM, JUNIORS CAN ENTER AN "OFFICE OCCUPATIONS" PROGRAM; AFTER GRADUATION, TWO MORE YEARS AT CHEMEKETA COMMUNITY COLLEGE EARNS THEM AN ASSOCIATE DEGREE.

DALE PARNELL, FORMER STATE SUPERINTENDENT OF EDUCATION IN OREGON, RECENTLY WROTE A BOOK ENTITLED "THE NEGLECTED

MAJORITY" THAT DISCUSSES THE 2 PLUS 2 IDEA IN GREAT DETAIL. I THINK HIS VISION IS AN EXCITING ONE. PLANS LIKE 2 PLUS 2, HE POINTS OUT, RECOGNIZE THAT "MAKING WINNERS OUT OF ORDINARY PEOPLE SHOULD BE A KEY TEST OF EDUCATION REFORM."

ON A RELATED NOTE, I SHOULD STRESS THE IMPORTANCE OF NOT CONFINING OUR VISION FOR SCHOOL TO THE "FIRST TIME THROUGH."

HERE IN THE PACIFIC NORTHWEST, BEFORE HATCHERY SALMON ARE RELEASED TO THE OCEAN, THEY ARE FIRST "IMPRINTED" WITH THEIR NATIVE STREAM, SO THEY ARE FAMILIAR WITH ITS PECULIAR CHARACTERISTICS, AND THUS CAN FIND THEIR WAY BACK, SOMETIMES AGAIN AND AGAIN, ACROSS THOUSANDS OF MILES OF OCEAN AND INLAND WATERWAY.

SIMILARLY, WE NEED TO "IMPRINT" TODAY'S STUDENTS WITH THE RECOGNITION THAT EDUCATION IS A LIFELONG ENDEAVOR. SCHOOLS MUST EQUIP TOMORROW'S WORKERS WITH THE ABILITY TO START IN A FIELD -- AND THEN SHIFT GEARS WHEN AND IF THE NEED OR OPPORTUNITY ARISES.

CREATING THIS KIND OF FLEXIBILITY WON'T BE EASY. IN MANY RESPECTS, THE AMERICAN SCHOOL IS AS DIFFICULT TO CHANGE AS OTHER LARGE INSTITUTIONS -- THE AMERICAN CORPORATION, THE LABOR UNION, THE PENTAGON.

BUT IT'S WORK THAT ALL OF US MUST UNDERTAKE. STATE AND LOCAL GOVERNMENTS NECESSARILY WILL LEAD THIS EFFORT; THE FEDERAL GOVERNMENT, MOST LIKELY, WILL CONTINUE TO PLAY THIRD CHAIR IN THIS ORCHESTRA.

THAT IS NOT TO SAY THAT YOU CANNOT DO MORE -- FOR INDEED YOU CAN. FOR EXAMPLE, IT'S CLEAR TO ME THAT WHEN WE CONSIDER THE NEEDS OF THE "ORDINARY STUDENT," THE KEY INSTITUTION OF THE FUTURE WILL BE THE COMMUNITY COLLEGE. IN OREGON, FOR EXAMPLE, ONLY HALF OUR STUDENTS GO TO COLLEGE -- AND OF OUR FRESHMEN, 55% ENROLL IN A COMMUNITY COLLEGE.

I CANNOT RESIST THE CHANCE TO POINT OUT THAT DESPITE THIS FACT, AND DESPITE THE CLEAR NEED FOR NEW INITIATIVES ON BEHALF OF A QUALITY WORKFORCE, MORE THAN 95% OF FEDERAL AID TO POST-SECONDARY INSTITUTIONS IS DEVOTED TO 4-YEAR COLLEGES AND UNIVERSITIES.

WITHIN EXISTING FUNDS FOR K-12 EDUCATION, I URGE YOU TO RE-EVALUATE YOUR GOALS. THE VAST MAJORITY OF FEDERAL AID NOW GOES TO SCHOOLS THAT ARE UNDER-ACHIEVING. INDEED, IN SOME CASES A SCHOOL THAT SERVES LOW-INCOME STUDENTS WILL LOSE SUBSTANTIAL AMOUNTS IF ACHIEVEMENT SCORES GO UP.

GOVERNMENT AID NEEDS TO SERVE A SECOND PURPOSE -- TO ENCOURAGE SCHOOLS AT ALL LEVELS TO SET GOALS, AND THEN PROVIDE REWARDS FOR ACHIEVING THOSE GOALS. YOU CAN PLAY A

KEY ROLE IN BRINGING OUT THE BEST IN STATES, IN LOCAL SCHOOLS, IN TEACHERS, AND IN STUDENTS -- AND I URGE YOU TO TAKE UP THAT CHALLENGE.

AS WE TRY TO RE-ORIENT OUR OWN GOALS, WE SHOULD ALSO REMEMBER THAT THERE'S NOTHING SACRED ABOUT HIGHER CREDENTIALS. TO MAKE THE HIGH SCHOOL EXPERIENCE SO MUCH RICHER AND MORE MEANINGFUL THAT MANY STUDENTS WILL ACTUALLY NEED LESS ADVANCED TRAINING TO QUALIFY FOR A DECENT JOB WILL, IF ANYTHING, MAKE THOSE JOBS MORE ACCESSIBLE TO THOSE OF LIMITED MEANS.

FOR EDUCATIONAL POLICY MAKERS, IT IS AN EXHILARATING TIME. FEELINGS OF DANGER MINGLE WITH THOSE OF OPPORTUNITY. ABOVE ALL, A SPECIAL URGENCY IS ATTACHED TO WHAT IS, IN MY MIND, AMERICA'S MAJOR PUBLIC POLICY CHALLENGE FOR THE REMAINDER OF THIS CENTURY.

THE QUALITY OF OUR FUTURE REALLY WILL DEPEND ON THE QUALITY OF OUR SCHOOLS -- MORE SO THAN AT ANY TIME IN AMERICAN HISTORY. THESE HEARINGS REPRESENT AN IMPORTANT STEP IN MOVING OUR EFFORTS FORWARD, AND I APPRECIATE THE OPPORTUNITY TO SHARE MY PERSPECTIVE WITH YOU.

THANK YOU.

Representative SCHEUER. I thank the two witnesses for their truly inspirational remarks, and we are grateful to you both.

I would like to recognize first the vice chairman of the Joint Economic Committee, Congressman Hamilton.

Representative HAMILTON. Thank you very much, Mr. Chairman, and I join with your other colleagues in saying that we appreciate what you are doing in these hearings.

I want to say to Governor Orr and Speaker Katz that I appreciated very much their testimony. It is good for me to hear what is going on at the State level from leaders that have been involved.

The question that was on my mind, and I would like each of you to respond to it if you would, is what kind of opposition do you encounter to major educational reform and how do you overcome that opposition? What are the sources of the opposition and how do you overcome it? What has been your experience? Just share a little of your experience with us.

Ms. KATZ. There is certainly some concern on the part of the educational establishment. What do I mean by that? School districts, school administrators, superintendents, principals, schools of education, the system of higher education. They don't understand what all this change really purports for them in the long run. They want to be supportive and I think they can be brought along during this debate.

Representative HAMILTON. Are you suggesting that it is the very professionals in the field that are holding back reform?

Ms. KATZ. What you are really doing is, you are shaking up a very traditional system of education and it is not coming from within the ranks; it is coming from outside. As soon as that kind of pressure comes from the outside, the level of paranoia increases dramatically.

Now, that part of the establishment can be brought along. Of course, you have to promise your schools of education they are not going to suffer any FTE decline, and with that the necessary dollars, but you have to demand that they change the way they are doing business today.

Representative SCHEUER. Can you translate FTE for us?

Ms. KATZ. Full-time equivalent. Interestingly enough, there was a lot of concern that if you raise the standards for entrance into 4-year universities or colleges, student FTE's would decline and, with that, the loss of State dollars. The opposite occurs. You raise the standards; young people are going to come to your school.

That is the management side. On the other side is the labor side. I think we are all aware that there are two major teachers' unions—the president of the largest one is here with us and will be testifying—one of which has been far more active in supporting the reform movements; the other moving along, moving along slowly, but moving along, thanks to the leadership of Mary Futrell.

But down in the trenches, that paranoia still exists. However, if you can reach the rank and file as we did in Oregon, by actually using some private grant dollars to poll the rank and file, we have uncovered that the rank and file teachers support these reform movements because they are very proud of their profession, they want it to grow in stature, they want the responsibility, they have been trained for it, and they are willing to take the accountability that goes with it.

They want more money, too, and they should receive it. There is no question about it.

If you can get to the rank and file, and if you can bring the leadership of the labor groups along and show them that this is not a threat to their existence or to their long-held beliefs, they will be with you. It is difficult.

Representative HAMILTON. Before asking Governor Orr to respond to the same question, where do the students stand in all of this?

Ms. KATZ. Unfortunately, children in our community, in our country, are the last to have any say in all of this, and that is the sad part of it. That is not only in education; it is true in mental health, in institutional health for children. The children are the ones who don't vote, who rarely have advocates representing them, and in this particular arena, really the ones who have to care for them are the teachers and the parents.

Parents don't understand what is going on, though they support it. The reason they don't understand is because they are so concerned about their property taxes and the level of their property taxes that finance the schools.

Unfortunately, the teachers and the administration are also concerned about the fact that schools close. Oregon, until recently, actually closed their schools because they didn't have money to finance them, because the voters said no to school levies or updated tax bases. So you are always living with that financial threat. That doesn't help reform.

However, I am a firm believer that if you tell the public that if you pay for education, we promise that there will be a product at the other end that you will be proud of, they will pay for it. It is a long message and it has got to get there.

In Oregon, the business community has focused its attention on the universities and the research institutions. They really have not paid much attention to K through 12, and they still feel uncomfortable about community colleges because they don't come from community colleges. They are alumni of other institutions.

I think if, through political leadership, we can engage these groups and empower them to show that kind of leadership, we may have an educational revolution on our hands.

Representative HAMILTON. Governor.

Governor ORR. Let me first answer your question by saying that one of the things that has interested me is that those of us who have an interest in reforming our educational system come from both sides of the political aisle. I find a great deal of uniformity in thinking among the Governors, Republican or Democrat, and I sit here and listen to the Democratic Speaker of the House in Oregon and I agree with almost everything she said, which I hope she won't find shocking.

The point I am making is that those of us that know that change has to be made are willing to go that extra distance and take that political risk to make it possible.

But now to answer specifically your question, I would take exception on the management side to only one comment that Speaker

Katz has make. Principals, in my opinion, are a breed unto themselves. I don't think they fall into the same category of the educational establishment as do many others. At least a lot of them, that is the case.

Indeed, I think it may well be an effort being made, as I outlined in my own remarks about emphasizing additional help and assistance and training to principals that may make a considerable difference, and it is not very expensive to do. It is like almost any other walk of human life. If the leader is capable and he has had the kind of training and experience to qualify him as a good leader, he will do many of the things that need to be done, such as letting teachers have some say in what goes on within that school.

Whereas, a principal who is not a good leader will be fearful of letting the teachers say anything, and will keep them where they belong, in the classroom, and not let them do what the teachers want to do, which is to have a part to play.

As far as the labor side of this situation is concerned, I quite agree that the rank and file teacher is, in many, many instances most enthusiastic. You and I chatted briefly before this hearing began on that point. Unfortunately, leadership in the union is unwilling to allow change to take place, I think, out of fear and, as a consequence, has stook there endeavoring either to prevent reform from taking place as we did in Indiana—and we did it, in a sense, over their dead body—or they are attempting now to backdoor the situation and frustrate the implementation.

Somehow, the rank-and-file teacher that is in favor of all of this must step forward and assert some leadership in order to make possible the progress that I know can be obtained.

Representative HAMILTON. Thank you very much, Mr. Chairman. I won't take any more time. I appreciate it.

Representative SCHEUER. Thank you very much, Congressman Hamilton. I am happy to recognize my colleague from New York, Congressman Hamilton Fish.

Representative FISH. I thank you very much, Mr. Chairman.

It is hard to know where to begin after such stimulating testimony. I certainly agree with what was said about the value to our educational system of the community colleges, and the flexibility that they allow. This is very true in my State of New York. I also agree with what has been said about the need for skilled service sector jobs in the coming decades.

So the problem, it seems to me, is to combine job training and education.

I believe it was the Southern Governors about a year and a half ago who added a new dimension to this old question of being internationally competitive in a global economy when they coined the phrase, "international illiteracy."

I didn't hear either of the speakers address this issue, but what I think the Governors had in mind was that if you are the buyer, you can purchase from abroad in your own language. But if you are the seller you have to know the buyer's language. We should emphasize this need at the high school level for courses not only in language but in international politics and the culture of other countries.

I would like to hear if this idea is part of the programs that you two envisage.

Second, I think if you two had an opportunity to start with a kindergarten class and work on the whole school system for the next 12 years we would have an ideal education system, but you don't have that opportunity. We have got kids that are already at risk at various levels of the educational system.

It seems to me, certainly in my part of New York State, our Head Start Program has been enormously successful. I prefer to call it equal start, because that is really what it is doing; it is taking children from a certain environment and giving them an equal opportunity along with kids from better home environments. And their record has been very solid in terms of reducing the number of dropouts in our school population.

But we have kids in the pipeline now, so that to help high school children who are in trouble, some have proposed a combination of some classroom work during the summer months to keep them prepared to enter the next grade, plus summer jobs. I would like your comments on that idea.

Just another comment before you respond. I thought you might be interested to know that a number of us attended, a few months ago, a Congressional Institute for the Future. At this institute there were two self-contained instructional systems which were developed by IBM to teach people to read. One system is called Writing to Read and is designed for elementary school pupils, but the one that I was interested in, that is designed for those between the ages of 15 and 25 whose literacy skills are not what they should be, is called PALS. Of course, as you can imagine, teaching reading to this age group by computer avoids the embarrassment of admitting to an instructor that they need help, and the computer has all the qualities of the finest educator—compassion as well as unending patience. I recommend that system to you.

But now if I could ask you to comment on the question of international illiteracy and on the problem of the kid who is behind even before he enters kindergarten and is falling even further behind today at the high school level.

Governor ORR. Let me answer the question on geography, language, and history, and knowledge about other countries.

For some reason, about 25 years ago, schools stopped teaching geography. It is of great concern to Gilbert Grovenor, the president of the National Geographic Society. He is offering awards to school systems for undertaking the activation of geography.

But it is of equal concern to me because—I don't mean just knowing where a country is; knowing what a country does, what kind of people live there, what kind of economy they have, what kind of resources they have, what kind of politics and government they practice, what kind of religion they have; all of the things that you need to know, that an American salesman always endeavors to know about his customer before he goes in to call on him.

Language is, without any question, one of the most important. I asked a distinguished Japanese, the chairman of the Mitsubishi Corp., after a luncheon I was having with one time, what language should Americans learn to speak? He smiled and said, "Obviously, the language of their customer."

Our problem is that we have never considered language for its economic value. It has been regarded usually as a necessary requirement to get into college, and so you take some language in high school, in college, in embellishment of a liberal arts education rather than something of value.

A gentleman I know told me recently that he does a lot of business in China; that they pay three times the beginning salary for a college graduate who can speak Chinese over one who can't. He speaks loudly of the economic advantage of learning language.

Somehow it is the responsibility of those of us that have leadership in the States—I think primarily there can be some encouragement from Washington—that geography, history, those things that will make possible for an American salesman to want to go overseas to sell, to do so and do it effectively, is one of the most important things that needs to be now undertaken.

The problem is we need to have those people in place immediately, right now, rather than in the future. What I described was a system of education that will provide us for the future. We need to make sure that those people are available at this point.

I believe a lot can be accomplished by the interchange of educators between countries. Japan does that now. A teacher from Indiana is in Japan at this very moment. I asked her before she left if there were any teachers from Japan coming to the United States. "No," she said, "there is no comparable program the other way."

I think language and geography are two essential ingredients of an educational system now and off into the future if we expect to maintain our position.

I would love not to be restrained in this hearing with education, but to say that in my opinion America does not import too much. Our problem is that we do not know how to export well enough, and our educational system from kindergarten through graduate school doesn't do anything to help America sell its products abroad.

Representative SCHEUER. Let me just footnote what you said, Governor. You are so on target with your remarks about language and the fact that we better learn to speak the language of our customers.

The Japanese have about 50,000 Japanese executives and salesmen in this country with an excellent command of English, and they are selling the pants off of us. We have less than 1,000 Japanese-speaking American executives and salesmen in Japan.

Is it any wonder that they are selling the pants off of us? That was only meant as a footnote. Please go ahead.

Governor ORR. As a footnote to your comment, I will be in Korea this time next week at a trade fair, a trade show, and there will be a lot of Koreans speaking English with us, and very few of us that can speak their language.

Representative SCHEUER. Speaker Katz, did you want to respond?

Ms. KATZ. Yes, I did. I have always been somewhat appalled at the fact that Oregon, sitting on the Pacific Rim does not mandate a foreign language upon graduation of high school. This is because of our fragmented system of education where you have governing bodies governing K through 12, a separate one on the local level for community colleges, and then one for the system of higher education.

The system of higher education finally said that they will require a foreign language for all graduates of the system of higher education in Oregon by 1992. They are doing that to push high schools into offering it.

Interesting though, where schools have grabbed this notion that international geography, the language, the knowledge of culture is important, they are terribly successful. Japanese is the "in" thing, the language to learn in Oregon now. In fact, one high school is offering Japanese and has 100 students in their classes.

The community colleges have been out in front by not only offering Japanese, as the community college that I work at offers, but also classes in understanding the culture, understanding the business culture of the Japanese, understanding the Japanese economy, and understanding the geography.

I think the entrepreneurs have a very fertile field if they want to take advantage of it. I am convinced if the high schools offer the languages, there will be customers.

I agree with you that probably a program that has had the best results is Head Start. Unfortunately, because of priorities or financial resources, the Federal Government has really dramatically cut the program, and we in Oregon picked it up and created our own Oregon Head Start Program to try to make up for some of that loss.

Representative SCHEUER. What you just said really fills me with great, great frustration.

I helped to write the Head Start Program in 1965 under the superb and outstanding leadership of Congressman John Brademus of Indiana, one of the great luminaries in our country in the field of education reform then and now.

Just as it was an inspirational experience to work with Congressman Brademus, it has been an inspiration to hear you two this morning. You have been absolutely marvelous witnesses.

The source of my frustration is that you are so much the exception rather than the rule. We ought to have 50 Governors like you, Governor Orr. I don't know how we can clone you. I don't know whether our science has taken us that far.

Why are you two so much the exception? Why isn't all this education ferment bubbling in all the 50 States? Please, tell me that it is and that I am just badly informed.

Let me just finish expressing my frustration. We never intended for the Federal Government to be the permanent funders of the Head Start Program. We have never contributed more than 6 or 7 percent of the State and local education budgets. That is not our role. You would be mad as hell at us if we tried to preempt the role of funding education. You don't want us sticking our nose under the tent.

What we tried to do is stimulate a little innovation, a little spirit of experimentation. It was an experimental program. Mr. Brademus and I were so proud of our baby. It was the diadem in the crown on the Elementary and Secondary Education Act. We thought we had wrought something beautiful and wonderful, and all the tests proved that Head Start was great.

And all the tests have proved some other things that are interesting, too. If you don't do something to continue that enrichment process in first, second, and third grade, the marvelous explosion of advance that these disadvantaged kids showed as a result of Head Start services begin to fall off. And we have found now, that during the summer months when kids are out of school their learning and their achievement falls off.

So I ask you, and I would like to hear from both of you, why aren't there more Katz' and more Orr's around the 50 States; people who are busting out all over in achieving education experimentation, education reform, education change, education improvements?

We seem to feel that there is a great big, turgid, unresponsive mass out there with just a few exceptions like you two.

Following on that, do you think the Federal Government ought to reward in its funding programs not just the operation of these programs, not just entitlements but, rather, accomplishment, performance? Should our financial formulas now be based on some kind of accountability? "We'll pay you if you produce change. We'll pay you if you increase reading levels. We'll pay you if you decrease dropout-ism. We'll pay you if you increase parent involvement."

Should we reward performance? Should we have some kind of grants that recognize achievement? We think we have done some wonderful things at the Federal level. And a few really outstanding, courageous leaders like yourselves on the State level fill us all with awe and gratitude.

But my frustration is that there aren't more of you. What can the Federal Government do to stimulate more reform?

Governor Orr, what can the Federal Government do perhaps to reduce the political risk-taking that you have been asked to take? How can we shore you up politically and how can we further empower you and other Governors and other speakers to move boldly into the field of education reform?

Governor ORR. I will attempt to start the answer to that. I think we are problably joined in this.

I think there are far more Governors in the United States of America that are patterning themselves along the lines that I have described for Indiana than may be realized. Former Governor Riley will be here later.

Representative SCHEUER. We are eagerly awaiting his arrival.

Governor ORR. He is a classic example in the State of South Carolina. I suppose at least half of the Governors, and maybe more, have innovative programs of one kind or another.

One of the intriguing things that is happening is the concept of the States being laboratories of democracy; they are laboratories of education. And things are tried in one State that are likely to be experimented with there and others pick them up and carry forward with them.

I do believe that education today at the State level is vibrant with the desire to bring about change, and probably when I said half the Governors, there are half that are actively engaged in it and the other half are carrying forward with changes.

I applaud you for what you did in 1965. It was extremely necessary at that time. There was great inequality among the States, all of the Southern States in particular. That has changed dramatically, particularly in the last 5 or 10 years.

Representative SCHEUER. Let me just footnote the Head Start Program's origins in 1965. After the successes of that program, we just assumed that every school district in the country would extend down to the 2d or, at the very least, the 3d year. But that hasn't happened.

As an experimental program that was designed to stimulate real change and be replicated by States and the local communities, the Head Start Program disappeared without a trace, and it just proves how we treat our successes the same way we treat our failures.

I hope, Governor, that with your leadership, the States will begin to look at the things that are happening at the State level and they will define their successes and define their failures and try and take a surgeon's scalpel and cut out of the system programs that don't seem to be accomplishing their purposes, that seem to be founded on false assumptions, and take their successes and build on them, and just pour resources into those programs and extrapolate and extend them and make them the currency of the day, get them into the intellectual education stream of commerce.

We failed for 20 years, we really did. We created some beautiful programs but we never got them into the education stream of commerce at the State and local level, and I take blame for that and I am deeply disappointed at our failure.

Can't you learn, you Governors, you great people, the leaders that we have here this morning, to identify and shore up those great programs with resources? Can't you set up some system of looking across the length and breadth of the great new things that are going on at the State level and local communities and identify your successes and get the word out and have seminars, conventions, colloquia, pamphlets, and so forth? Get the word out so that States will replicate the success that Indiana and Oregon have shown.

That is the question: How do we get the message out there in the 50 States, especially in the States with the lowest education achievement? How do we do that?

Governor ORR. I think they are moving dramatically. Let me make the point that Mary Hatwood Futrell—I don't think her predecessors used to attend the Governors' meetings when they met. She is a regular in attendance now because she would lose out some way or another if she weren't there.

Representative SCHEUER. Is Mary Futrell here? Yes, she is here. We are looking forward to your testimony with great anticipation.

Governor ORR. I think she will acknowledge the fact that some of the most exciting meetings that she has attended have been recent National Governors Association meetings, and I know she attends the legislators' meetings also, because the same degree of excitement prevails there.

Legislators and Governors have to work together. They sometimes work at cross purposes, as they did to some degree in our program this year. But eventually we got everybody together. It had to be bipartisan in order for it to be successful.

Representative SCHEUER. Do you have a formal mechanism for screening and scrutinizing this new sprouting of education reform efforts, and then getting the word out about the ones that are working?

Governor ORR. I think the Education Commission of the States, for example, which is all elements of State government, does a very good and commendable job with that sort of thing. We are learning how, on a day-by-day basis, how better to help each other. And we are pretty larcenous in stealing the good ideas that one State creates from another.

Governor Clinton, for example, who was head of the NGA last year, he was here last week, and he was in the forefront of all that sort of thing. So it is not a partisan situation, thank goodness. It is something which I think is a strong movement among the States.

Ms. KATZ. Let me respond to some of the points you have made.

You are absolutely right; you ought to provide us—your resources are as limited as ours, but you have got a little bit more flexibility—you ought to provide us with incentive grants to do better.

Representative SCHEUER. Based on performance.

Ms. KATZ. Performance, or programs that you know are successful.

Representative SCHEUER. Yes. Well, that is performance.

Ms. KATZ. Oregon, for example, used limited resources to create an Oregon Head Start Program. You ought to reward us for using our resources for your Federal program. All of our legislation has evaluation components built in. I am taking a personal interest in monitoring these programs so that we can report back and say what works and what doesn't work, and support what works in the next legislative session.

But in all fairness to the States and the local communities, we are not like Japan. We are not funded on a national level. We don't have a national curriculum. And we are financed by local taxpayers, State general funds. And we have demands not only on Head Start, but on kindergartens, full-time kindergartens, and somebody has got to pay the bill. The States didn't have it. You took away some of our revenue-sharing money that Oregon used to help finance local schools. We are both caught in the same position.

I looked upon it in the last couple of years as what is that margin of excellence that we could provide? What is it that we can do with a small amount of money that will begin to set a pattern? And what kind of expectations can we put on the table for schools to achieve?

I think by providing those incentives, as we did, to local school districts to do better, you provide us a plan and a program to get to excellence and we will pay you. That's the way we went about it. We will give you the money. We can't ask them to do it anymore without any pay.

To get back to Congressman Fish's point, I would love to have some resources, and we will be looking at it through private sources, to identify those at-risk youth, and we all know we can identify them very early on, to bring them on a community college campus for the summer and raise the level of their skills, to promise them tuition payment if they complete their high school work, and jobs in our cooperative education program.

So not only do they continue their work on the high school level, but they appear on the campus in the summer. They know they have a home to continue their education in the postsecondary level if they succeed in high school, and there is a job there during the summer while they are going to community college.

We don't have those kinds of resources to begin to make those links between elementary and community colleges because the base of funding is different, and nobody is willing to let go of some of those dollars to make those links occur. So we have to go out to the private community or get a grant on the State level if a program of that nature is available to us.

If you can see your way clear to provide community colleges or 4-year institutions and elementary and secondary schools the opportunity to experiment with those kinds of programs and then require us to have a maintenance of level——

Representative SCHEUER. Maintenance of effort.

Ms. KATZ. Yes. An effort and a level of funding. As much as my own colleagues don't like it, it is absolutely critical that you require that of us. But you also need to provide us some incentive to go ahead so we don't only pull up the very poor student a little; we should begin to expand his or her opportunity so that they can, in fact, go on to college.

My main concern is that we don't have enough minority students going into the teaching profession.

Representative SCHEUER. Of course that concerns all of us. I am going to yield to Congressman Fish for one question and then yield to Congressman Wyden.

Representative FISH. Thank you, Mr. Chairman. The subject is school financing, and I want to get to this question; it has not yet been addressed. It has to do with the school budget process.

I am assuming that in many States they do it the way we do in New York where the school budget goes out to the school district voters for approval. And I just am awfully glad that the public at large is not asked to vote on the budget that we managed to come up with here.

But frequently, even though polls show that the public at large, including my constituents, would pay more for education, the school budgets do have problems, and it does seem like it is an unusual situation where people in a school district are asked to approve a school budget when they are not asked to approve the county budget, the State budget, the Federal budget.

Do you see any need, either one of you, for reform in that practice?

Ms. KATZ. I would love to have reform in that practice. Talk about political problems—and the fact that the taxpayer hangs onto that local control of the budget and of their curriculum through election of school board members.

In Oregon, we don't even have updated tax bases, and until a couple of months ago, school districts would close their doors because levies failed. They would go to the voters over and over and over again and hold the voters hostage until the voters said yes.

Representative SCHEUER. Who was holding whom hostage? That is a big question.

Ms. Katz. That is a good question. But everybody felt they were held hostage. And you ask, how can education reform go on in that kind of atmosphere? It's very difficult.

Representative Scheuer. In other words, you are saying that the voters themselves are an impediment to education reform and education experimentation.

Ms. Katz. To the extent that the doors of the school at least until a couple of months ago were closed.

Representative Scheuer. You know, Lou Harris, the pollster, testified before this committee in one of our earlier hearings. He stated that he did national polling on the question of whether the taxpayers would be willing to pay for an extra education tax, a 2-percent tax on earnings for the purpose of stimulating real progress in the educational system, not just more of the same, but new innovative, effective teaching programs.

And he said 75 percent of them would be willing to pay a 2-percent tax if they were convinced it would really work and that there would be a change and kids would be propelled ahead in their education.

Ms. Katz. I agree with you. I think that is a very important issue.

Representative Scheuer. But they want to know that it just wasn't going to be more of the same poured down that big black hole.

Ms. Katz. In Oregon, as in some States, the financing of K through 12 is largely through the property tax, the most regressive tax there is, and that is the reason the voters are saying no. Unless the State substantially increases its support of the schools and offsets those property taxes, we have really a property tax revolution as we did in California and in other States.

Representative Scheuer. Is that in your State constitution, that schools are financed by property taxes?

Ms. Katz. It doesn't specifically say it, but they are, in fact, financed by property taxes and the general fund of the State of Oregon.

Governor Orr. May I answer your question?

Representative Scheuer. Yes, indeed.

Governor Orr. Because I want to get Indiana's position on this quite clear. We, nearly 15 years ago, began to switch away from the property tax and now at least two-thirds, maybe as much as 70 percent of the cost of schools is on statewide, mostly sales tax.

The increase in our program that we enacted last winter was based very much on what Lou Harris and other surveyors had indicated, because we did increase our income tax, personal income tax, from 3 to 3.4 percent, and our business taxation a comparable amount to make possible the A+ program.

The public was for it because they knew they were going to see the results and know whether they were working or not. Unfortunately, Oregon doesn't have a sales tax. Almost half of our sales tax goes, our 5-cent sales tax, goes for local education.

Representative Scheuer. Speaker Katz, I saw you wince when Governor Orr said he financed education largely through the sales tax. I know what you were thinking. That is not a liberal, enlightened way to finance education.

Ms. KATZ. Oh, no. I supported the sales tax over many, many years. It has failed several times at the ballot. It failed just recently. We did put out, when I was speaker, probably the most progressive sales tax proposal in the country.

Representative SCHEUER. Sales taxes aren't progressive in their nature. Even if you exclude food and medicine, they are not really very progressive. But such an eminent liberal as John Kenneth Galbraith supports the sales tax.

Ms. KATZ. I was going to say that.

Representative SCHEUER. When you ask him why, he quotes Willie Sutton. He says that is where the money is.

Ms. KATZ. Galbraith supports, and we made it progressive, but the voters said no. We will come back again, but somewhere in the future. They are not ready quite now to deal with a property tax and income tax and a sales tax. That is unfortunate.

Representative SCHEUER. I really want to yield and I apologize for the delay in yielding to one of our most creative and thoughtful and innovative and dynamic legislators, your own Congressman, Speaker Katz, from the State of Oregon, Ron Wyden.

Representative WYDEN. Thank you very much, Mr. Chairman. I will be very brief because I think both of our witnesses have been exceptional.

Speaker Katz, I think you have identified this question of priority just exactly right, because we are in this age of big deficits; you can't do it all.

If the Federal Government were to make a small amount of dollars available for pilot projects at the State level, which ones would State leaders like yourself choose at this point? If you could have a small amount of Federal dollars for, let's say, two pilot projects, what would those pilot projects be?

Ms. KATZ. They could be many. The one I identified would be how do you find the youth and what programs can you put in place to make sure they finish their high school education and have an opportunity to enter college.

I think, more important than that—let me answer the question generically—sit down as a committee and identify your priorities. You have heard all the testimony. You know that margin of excellence that needs to be accomplished. You know those reform programs that appear to work. Those are the ones that you ought to focus on.

Provide incentive grants to make what we have better than it is today, and getting it ready for the 21st century, not for tomorrow, but for down the road.

Representative WYDEN. The only other question that I had, perhaps for both of you. How would you assess the status of vocational education in this country now and what might we do to strengthen it? Governor.

Governor ORR. Well, the fact that we are restructuring it on an almost wholesale basis at this point was to make it relevant to today's needs and particularly to tomorrow's requirements, I think says a mouthful about what we have at the present time as being inadequate or at least not fulfilling the need.

I am not sure that you need to do anything really, except that I would much prefer to see the Federal moneys that come to the

States for vocational and technical education, come in the form of a block grant so that it is not tied to the specific kinds of things that unfortunately, all too frequently, relate to the past rather than to the future.

Representative WYDEN. I happen to share your view with respect to the block grants and finding new ways to promote flexibility.

Speaker Katz, you have been involved in Oregon's High Technology Consortium and other innovative vocational education steps. Are there other things that we ought to be doing to strengthen vocational ed?

Ms. KATZ. No. I think the Governor has really responded to that. Again, you know as well as we do what needs to be done. You have heard the testimony from experts, from people who are directly involved with what we call the "reform movement" for lack of a better word. Make a decision where your priorities are and, pardon the expression, put your money where your mouths are.

Representative WYDEN. Let me just thank both of you. I think, frankly, the two of you have really set out what amounts to a primer for the presidential candidates in both political parties for educational reform, and I want to thank you for an excellent job. Thank you, Mr. Chairman.

Ms. KATZ. Thank you for the opportunity.

Representative SCHEUER. We are not finished yet. You mentioned incentive grants. You two, of course, would be in there scratching and fighting for every buck that wasn't nailed down because you would be entitled on the basis of your performance.

But how about a lot of those other States where they are really not doing anything very creative? Would they yell and scream at their Congressmen and their Senators, "No, we want those nice, comfortable, assured grants. We don't want it to depend on performance. We just want the assured flow of funds for educational purposes, no matter what."

Are they going to fight the concept of incentive grants because they don't have the innovation to cut the mustard in a competitive situation and, therefore, they say, "Just give us our entitlements. We'll go home happy."

Ms. KATZ. I am convinced that if you continue business as usual, you are going to do injustice to the children that you really care about. We don't have that luxury anymore to just go on and do business the way we have been doing it.

Now, I don't mean to ignore those schools that need additional help. We cannot walk away from that obligation. But, as I said, we can demand more. We can demand more.

Representative SCHEUER. I am going to ask you two very, very brief questions because we have run way over our allotted time for this hearing because you absolutely stimulated and fascinated us.

Governor, you have told us how you are revamping your vocational education system. We have heard in the past few hearings of States that are bringing in their business leadership in a major way: (*a*) in restructuring vocational education; (*b*) in training the trainers, teaching the teachers, and during all kinds of experimentation with work-study programs with kids shuttling back and forth from the school environment to the work environment. Some kids seem to acquire their literacy skills and numeracy skills better in the work environment for some reason. They have been turned off by the schools.

Business leaders have been helping to encourage vocational education teachers to stop teaching how to make carriages and buggy whips, and really get into teaching the kids skills that are in demand now, not skills that were in demand a half a century ago.

Can either of you tell us briefly what you are doing to bring the corporate leadership in your State into the education process, particularly the reform of vocational education?

Governor ORR. I just appointed an 11-person mission to deal with the policymaking for vocational and technical education in Indiana. I suppose half, or more than half of those people come from the world of business where they have the responsibility to bring the worker along. For example, a personnel manager of a major corporation who has been in the forefront of innovative and creative vocational education for the worker in the workplace.

We are at a stage of metamorphosis right now. I took a look about a month ago at the vocational education system in Germany which I had heard a lot about. Very impressed with it because it is very much a system which—it is a 3-year program starting in the 10th grade, and it is very much in the workplace, very much in the workplace in the sense of separate quarters for certain kinds of activities that go on, very much oriented to the basic kinds of education that are necessary today in the workplace, as well as hands-on utilization of machinery and equipment.

But it is very job-specific to a given industry and not the kind of situation where you may be training people that have no skill that will be used in the workplaces in that particular area, a real avoidance of any potential of that.

I think we can learn a lot from that kind of program in bringing and updating and modernizing our own vocational program.

Ms. KATZ. I think it is important that we make articulation from K through 12, from high school, easier when a student is ready to go to community colleges. A lot of the time they are not prepared. They have to start all over again, and instead of being out 6 months or a year, they find themselves in for another 3 years, and they leave and you never see them again.

Representative SCHEUER. The role of corporate leadership in Oregon—have you brought them into the vocational education process?

Ms. KATZ. Yes. We brought them into it early on, at the worst part of our recession, where we had to slash budgets in 1980, 1981, and 1982 and said, "We"ll give you some money. Match those dollars." And I worked on that program. State general fund dollars. And, we began to identify centers for excellence, not so much in vocational education, but in the high technology area in the 4-year colleges and universities.

And they got involved with their own dollars, matching the State dollars, and they selected several centers of excellence in the high technology area, in electrical engineering and in computer science, because the State did not have the resources to put in. What we also did 18 months ago was bring in their representatives to deal with these educational reform issues because they are not quite there yet. They don't really understand. As I said, they don't have that touchstone, the feel for what is going on in K through 12.

In vocational education, they are very sensitive to the fact that they need to get involved in retraining their own personnel. And what they have asked us to do is to go into their corporations and provide special skill classes for their own workers. What does that tell us? That tells us that——

Representative SCHEUER. You mean at the job site?

Ms. KATZ. At the job site. That tells us that what we are doing in our institutions in the traditional way does not meet their needs.

Representative SCHEUER. It may mean that they have older workers that they want to give the benefit of your kind of innovative vocational education and sharpen up their literacy skills, too.

Ms. KATZ. That is very accurate. But it could be possible that some of those community colleges are not facing those expectations and those needs on their own campus, so we are doing both, and in fact going into the corporate world, providing those upgrading skills. The largest challenge is the retraining of those who are unemployed or underemployed, and the largest challenge of that is the single woman, head of household, with children.

Representative SCHEUER. Is she working so that the corporation can reach her, or is she not working?

Ms. KATZ. No. Part-time jobs. Her needs are day care in the community college or in the university system.

Representative SCHEUER. And vastly upgrading her job skills and her literacy skills.

Ms. KATZ. Day care becomes a problem because if she can't have her child in a secure position, she is not going to go to school.

Representative SCHEUER. We have run way beyond our time for this panel, but I am going to ask one last question.

The question is this. We have had a recurring note that has come through these hearings and that is the mention by quite a variety of witnesses that we ought to begin looking at a year-round school system at the elementary and secondary level.

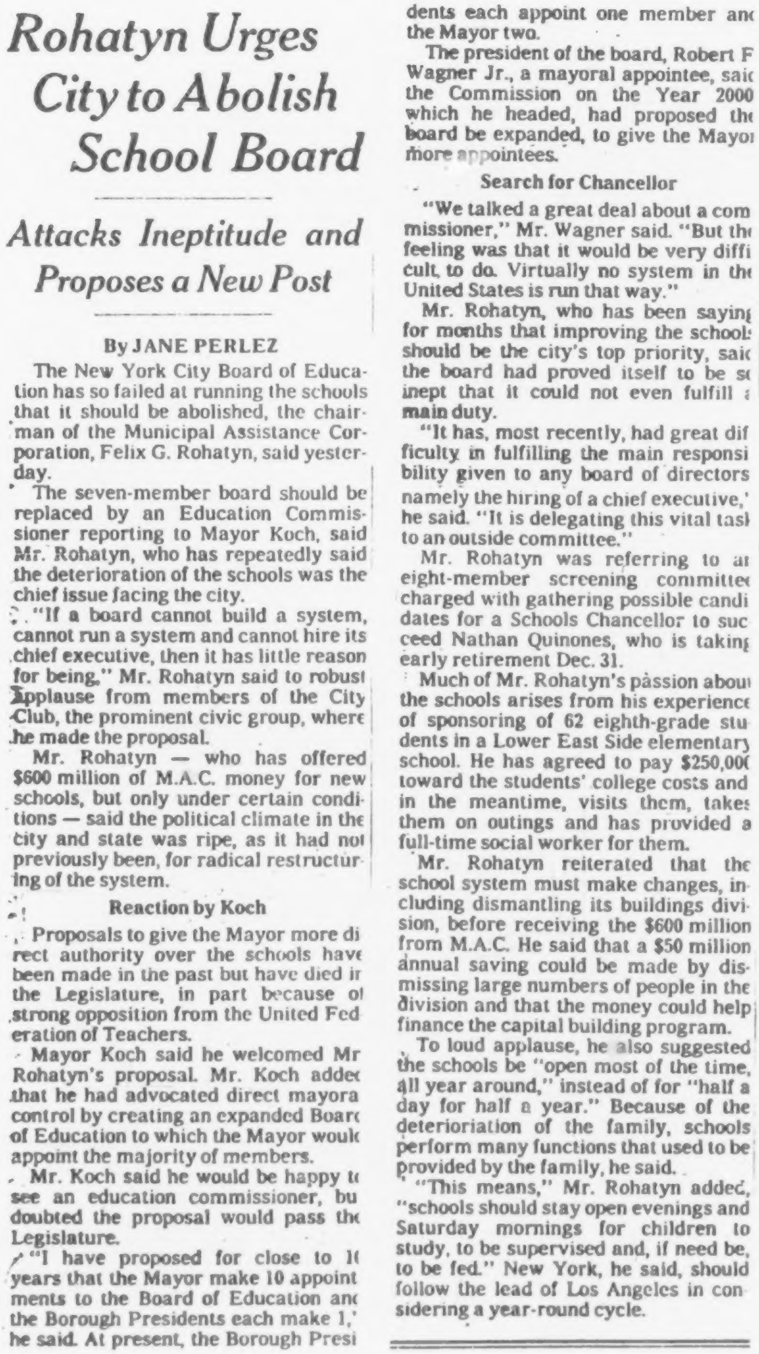
We know that Head Start kids and kids in the first six grades, and high school too, especially minority kids where they may not have as enriched a home environment as a middle class kid, begin to lose on their test scores if they are out of school for 2 or 3 months over the summer. Their test scores, their cognitive skills go down. So they have to play catchup ball in the fall. They can't hit the track running when they come to school again in the fall. There is remediation to make up for what they have lost over the summer.

Now, we have about 180 days in our normal school year. The Japanese have 240. They have 2 extra months of education for their kids. California is apparently experimenting with a year-round school system. Felix Rohatyn, the marvelously successful financier in New York, was just quoted in a New York Times article saying that we ought to definitely think of a year-round school system.

He said, and I am quoting him: "Why should we have a school system for half a day, half a year?" Why not have a school system that is open virtually all day, virtually all of the year so that the capital plant can work overtime, the capital plant we have already bought and paid for.

[The article referred to follows:]

(From the New York Times, October 24, 1987)



# Rohatyn Urges City to Abolish School Board

## Attacks Ineptitude and Proposes a New Post

By JANE PERLEZ

The New York City Board of Education has so failed at running the schools that it should be abolished, the chairman of the Municipal Assistance Corporation, Felix G. Rohatyn, said yesterday.

The seven-member board should be replaced by an Education Commissioner reporting to Mayor Koch, said Mr. Rohatyn, who has repeatedly said the deterioration of the schools was the chief issue facing the city.

"If a board cannot build a system, cannot run a system and cannot hire its chief executive, then it has little reason for being," Mr. Rohatyn said to robust applause from members of the City Club, the prominent civic group, where he made the proposal.

Mr. Rohatyn — who has offered $600 million of M.A.C. money for new schools, but only under certain conditions — said the political climate in the city and state was ripe, as it had not previously been, for radical restructuring of the system.

### Reaction by Koch

Proposals to give the Mayor more direct authority over the schools have been made in the past but have died in the Legislature, in part because of strong opposition from the United Federation of Teachers.

Mayor Koch said he welcomed Mr Rohatyn's proposal. Mr. Koch added that he had advocated direct mayora control by creating an expanded Board of Education to which the Mayor would appoint the majority of members.

Mr. Koch said he would be happy to see an education commissioner, bu doubted the proposal would pass the Legislature.

"I have proposed for close to 10 years that the Mayor make 10 appointments to the Board of Education and the Borough Presidents each make 1,' he said. At present, the Borough Presidents each appoint one member and the Mayor two.

The president of the board, Robert F Wagner Jr., a mayoral appointee, said the Commission on the Year 2000 which he headed, had proposed the board be expanded, to give the Mayor more appointees.

### Search for Chancellor

"We talked a great deal about a commissioner," Mr. Wagner said. "But the feeling was that it would be very difficult to do. Virtually no system in the United States is run that way."

Mr. Rohatyn, who has been saying for months that improving the schools should be the city's top priority, said the board had proved itself to be so inept that it could not even fulfill a main duty.

"It has, most recently, had great difficulty in fulfilling the main responsibility given to any board of directors namely the hiring of a chief executive,' he said. "It is delegating this vital task to an outside committee."

Mr. Rohatyn was referring to an eight-member screening committee charged with gathering possible candidates for a Schools Chancellor to succeed Nathan Quinones, who is taking early retirement Dec. 31.

Much of Mr. Rohatyn's passion about the schools arises from his experience of sponsoring of 62 eighth-grade students in a Lower East Side elementary school. He has agreed to pay $250,000 toward the students' college costs and in the meantime, visits them, takes them on outings and has provided a full-time social worker for them.

Mr. Rohatyn reiterated that the school system must make changes, including dismantling its buildings division, before receiving the $600 million from M.A.C. He said that a $50 million annual saving could be made by dismissing large numbers of people in the division and that the money could help finance the capital building program.

To loud applause, he also suggested the schools be "open most of the time, all year around," instead of for "half a day for half a year." Because of the deterioriation of the family, schools perform many functions that used to be provided by the family, he said.

"This means," Mr. Rohatyn added, "schools should stay open evenings and Saturday mornings for children to study, to be supervised and, if need be, to be fed." New York, he said, should follow the lead of Los Angeles in considering a year-round cycle.

Representative SCHEUER. Do you have any reaction as to whether we ought to have a serious discussion of moving the elementary and secondary education system in our country to a full-year basis and, if so, do you have any suggestions as to the role the Federal Government could play? And please give us very short simplistic answers to my question.

Governor ORR. No. 1, I don't think we should pattern our system after the Japanese. It suits their style and their culture. But there is no question that we have a serious problem with a lot of capital investment which sits unused.

I think there are varying ways by which we can use that system in the summertime, and I think it is important that we try to focus our attention on that. Whether we attempt to use the school buildings 365 days out of the year or not is a really serious one to try to analyze and face from a political standpoint.

It may bomb out, just simply because people think that is beyond the pale.

Representative SCHEUER. They have already paid for the schools.

Governor ORR. I know. But "You're going to keep my kid in school all year long" is going to be the instinctive reaction.

I think there are ways by which we can use that capital investment more fully. Among other things, employ a lot of teachers who want to work nearly a full year instead of only 9 months. Not all of them do. A clear majority want to work 9 months or thereabouts and that is all, but a lot of them, heads of household, want to work a full year.

I think we need to employ that capital investment on their part, too.

Representative SCHEUER. Speaker Katz.

Ms. KATZ. Again, that is an investment that has to rank with all the other priorities because it will cost more money. You will have to renegotiate contracts. You will have to have the support of teachers as to whether they want to go on and work, or at least a portion of them, full-year round.

But again the issue is, what are you going to be teaching in the classroom? Is it full-year round of the same, or are you going to focus in and require something extra to happen in that classroom? I could see certain summer classes coming into play for computer skills, for language skills, for math and science skills, but it is going to have to be a little bit different from what happens on a day-to-day basis during the regular school year.

Representative FISH. The trouble with you, Mr. Chairman, and your witnesses here, every time you ask another question, it reminds me of other areas.

I'd like to comment on this whole question of the physical plant sitting there underutilized. It seems to me that you could address the problem of the latchkey children, particularly in primary schools, if we tried to accommodate the families that are working by having an afternoon session.

Ms. KATZ. Absolutely. We do that. I guess one of the easiest things to do is think about full-time kindergarten. I mean that would be a nice easy phase-in, again expensive, costly, but that would be a nice phase-in in terms of bringing that group that is very high at risk into the system full time.

But you are absolutely right. Some of the schools in the inner city are using the facilities for latchkey, and the schools are open all day and at night for community education, which is a whole different field we have not even touched upon.

Representative FISH. Thank you very much.

Representative SCHEUER. Thank you very much. This has been an enormously stimulating panel. We are enormously grateful to you.

We will now have the second panel: Mary Hatwood Futrell, John Murphy, Barbara Hatton, and Sonia Hernandez. Panel No. 2, we will probably go through until a little after 12:30, so we will have close to an hour and a half for this panel. This promises to be a marvelous panel, too.

We have a splendid panel this morning. Mary Hatwood Futrell, who has already been greeted by a prior witness, has been president of the National Education Association since 1983. She is a high school business education teacher from Alexandria and was appointed by the Reagan administration to the U.S. National Commission for UNESCO.

Oh, we are delighted to have you, Governor Riley. We will include you in the second panel.

Now we really have an overload in terms of talent on this panel. We have John Murphy, superintendent of the Prince George's County School System, the 14th largest educational system in the country. In 3 short years as superintendent, he has introduced a highly successful Magnet School Program and we are looking forward to hearing about that.

Barbara Hatton, professor and dean of the School of Education at Tuskegee University in Alabama, has been dean of the School of Education at Atlanta University and is a past chairman of the Georgia Professional Standards Commission.

Sonia Hernandez is a teaching principal at the Emma Frey Elementary School in San Antonio's Edgewood Independent School District. In 1982, she was Hispanic Woman of the Year for the Southwest United States. She served as president of Communities Organized for Public Service and was chairperson of the Texas Association of Bilingual Education Program.

All of our witnesses in this panel—perhaps excluding Governor Riley—Ms. Futrell, John Murphy, Barbara Hatton, and Sonia Hernandez are all members of the National Board for Professional Teaching Standards.

We are a little bit short of time, so we are going to ask you all to testify for 8 minutes so that we will have some time for questions, which to me is perhaps the most stimulating part of the hearing.

Governor Riley, you missed the first panel, so in compensation for that, we will ask you to be numero uno on the second panel. Please take your 8 minutes, and I hope all of you will chat with us informally as if you were in our living room.

All of your prepared statements will be printed in full in the record. Incidentially, I will ask unanimous consent for all of the members to put their prepared statements in the record, mine included, because we were so eager to get to the witnesses this morning, we didn't want to take up time with our own statements. There being no objection, that will be done.

All of your statements will be printed in full, so simply chat with us informally and don't hesitate to allude, the four of you who were here for the other panel, to anything that you heard this morning—questions, answers, whatever. We will keep it nice and informal. Governor Riley, please proceed.

## STATEMENT OF HON. RICHARD W. RILEY, GOVERNOR OF SOUTH CAROLINA

Governor **Riley**. Thank you so much, Mr. Chairman, and members of the subcommittee. It is a pleasure for me to come before you this morning and a particular pleasure to talk about my State of South Carolina and the tremendous impact on economic development that our efforts in quality public education have had.

Back in 1983, South Carolina, like many other States, was pulling itself out of an economic recession. We had suffered through tight budgets. We were having those same strains that many other States, most of them, were having. At the same time we were trying to attract investors to the State. We were trying to attract corporate decisionmakers.

It became very clear to me as Governor, that talking to economic development leaders, talking to corporate leaders, people who make those decisions about expansion and new endeavors, that the big issue that they all were concerned about was the education level, not just the education level, but the priority setting in terms of a State's interest.

It used to be, as I dealth with economic development in prior days, that other factors were the first things they asked about, that other people were the people they wanted to talk with, the tax people or whatever. Now it is the school superintendent and it is people and it is teachers and it is other business people trying to determine the keen relative interest in the future of a State and its people and their capacity to do the job.

An interesting article in the Washington Post, to show you the relationship between quality education and economic development, in the Washington Post in 1987, a front page article read "Greenville County, South Carolina become recognized as an educational leader and its economic development skyrocketed."

I think that that in itself certainly tells in a great way the direct relation.

Our educational effort, the Educational Improvement Act of 1984, brought consensus to our State. We had cooperation. Everybody worked together. It involved taxes. It was real. We talked honestly with people. We didn't promise them a better quality of education without paying for it. Business supported it across the board. Teachers supported it. Educators, all across the board, supported our effort. Everybody was involved in framing it, including business, and we had those aspects in the program. It was results oriented. It was accountable. And all of the aspects that business would be interested in to see that the dollars were being spent in the proper way were there.

We had tremendous success in the program from an educational standpoint. The achievement has been real and immediate. Basic skill test scores at all grade levels have already surpassed what our goal was for 1988. They did that in 1986, so we were 3 years ahead of time. SAT scores have shattered expectations for 1989 already. We have led the Nation in improvement of SAT scores and in improvement of basic skills scores, all tied—I strongly say—to this business of jobs and economic development.

The Rand Corp. called our program the most comprehensive educational reform package in the Nation. I would urge the committee's attention to that word "comprehensive." If we center in on education and think that you are going to pull industry in by just educating 5 percent of a certain level of students, that is not right.

Industry and business is interested in stability, in priority setting, in movement, and in the future. And they see that in a better educated populace.

Economic progress has been good. I know of a number of industries that came into our State simply because they were excited about where we were in this business of public education.

Most of the education initiatives that have taken place over the last 10 years have been spurred by States and localities. Education should continue to be predominantly a State responsibility, I think, but I think the Federal Government has a very definite role as a partner in the Federal system.

It is very much in our national interest to ensure that our next generation is prepared with the basic skills to get and to keep a good job. Programs like chapter I serve as a foundation for State efforts to improve basic skills and cannot be further eroded.

Vocational education assistance is essential to help provide job opportunities for everyone and special programs for those with learning disabilities and handicaps must continue to be supported by Congress.

The greatest Federal role of all, I think as I prepare to close, is to maintain an unwavering commitment to educational excellence across this great country. We can't expect to continue as a strong international force if we are intellectually and economically weak, and those two are one and the same.

We cannot expect to continue as protectors of freedom if we don't prepare the next generation with the technical and analytical skills necessary to operate new and sophisticated equipment. We can't continue to be competitive in international markets if our workers don't measure up to the value and the productivity of foreign workers.

So, I say to you that while we still have a long way to go, we are beginning to realize a return on our investment in South Carolina. It saves business money by providing trained and educated worker. It saves government's money by keeping people off subsistence. It offers hope and opportunity to another generation of young Americans who will help this country grow and prosper long after we have gone. Thank you very much.

[The prepared statement of Governor Riley follows:]

## PREPARED STATEMENT OF HON. RICHARD W. RILEY

Mr. Chairman, and members of the Subcommittee, it is a pleasure for me to testify before this panel about the relationship between education and training and the economic viability of our nation. It is a particular pleasure to come before you and talk about the great strides we have taken in South Carolina and the tremendous impact it is having already on the economic landscape of our state.

Back in 1983, South Carolina, like many other states was slowly pulling itself out of the economic recession. We had suffered through very tight budgets, continuing to conduct economic development activities, trying to attract investors and corporate decision makers to locate in South Carolina. Our technical education was recognized as one of the best for training manufacturing workers in the nation. Yet, we were concerned about our position and future direction, given the changing nature of the world and the national economics. Everyone realized that the marketplace of tomorrow was going to be information based, and that we were moving from an industrial based society to one more service oriented. This change would require better and different skills. It would necessitate a fundamental change in the way we educated and trained people.

In South Carolina, we appointed a commission to undertake a comprehensive study of our economic development activities looking at every sector---small business, manufacturing, service, agriculture, hi-tech, financial---to determine if we were best prepared for the changing future. We were concerned about our continuing ability to attract good jobs for our citizens. This commission, including many leading business people in our state, found that we needed a comprehensive education policy which assured that our workers received the basic skills necessary to perform any task. We found that our technical vocational and higher education systems were spending an inordinate amount of their time teaching basic skills to students who had already been through our public school systems. One statistic startled us most: Of all the states in the Southeast, South Carolina had the lowest percentage of its population with a high school education (53%).

So we set to work to make a giant leap forward. Forging a partnership with business, the education community set about to perform radical reconstruction and rebuilding of the educational framework of our public schools. We found a willing and receptive public. Public opinion polls taken at the time found widespread and deep support for dramatic reforms in how our children were being taught.

The one great consensus we all shared was that educational reform was essential if we were going to remain economically competitive. Therefore, our educational restructuring focused on those elements which would improve student performance and achieve excellence in our schools. The Education Improvement Act of 1984 set six goals for South Carolina:

1 - Strengthen the teaching and testing of the basic skills;

2 - Raise student performance by increasing academic standards;

3 - Elevate the teaching profession by strengthening teacher training, evaluation and compensation;

4 - Improve leadership, management and fiscal efficiency of schools at all levels;

5 - Guarantee results by implementing strict quality controls and rewarding productivity; and

6 - Create more effective partnerships among the schools, parents, community and business.

We began by toughening standards for graduation and participation in extracurricular activities. We required all school districts to have an approved college preparatory curriculum, so students could build for college in a planned environment. To reduce our already high dropout rate, we also instituted stricter attendance rules.

Since education research has discovered that 50% of a child's development occurs by age 4, we wanted to practice a little preventive education by initiating our children at the earliest time. We now have a program for 4 year olds found to have development deficiencies, sadly a not uncommon event in a state with 16% of its people living in poverty. Additionally, we now have statewide mandatory kindergarten for all 5 year olds, a fact we know will produce high yields in the future.

We found that less than one-half of our schools offered advanced placement courses for gifted and talented students---now every school offers them. Vocational education programs were reviewed and restructured to make the curriculum more consistent with changing job opportunities and an ever changing economy. And special courses were instituted for handicapped and emotionally impaired students, so that everyone would share in this educational advancement.

But the cornerstone of the EIA was our all-out assault to dramatically improve scores on basic skills tests and other tests related to student achievement. One-third of all students in grades 6, 8, and 11 could not meet basic skill standards, therefore, we supplemented Chapter I funds for remedial and compensatory programs to assist those children with learning problems. Promotion became more closely tied to achievement. And we require, beginning this year, that every student must pass an exit exam before they can graduate.

We also sought to improve the professional standing of those who train our children. Teachers were given significant pay increases, bringing them to the Southeastern average. But we did more than just grant pay. The teacher pool was shrinking, so we initiated loan programs and other incentives to attract more students into the teaching profession. We did the same with programs for principals and school administrators. We implemented a school incentive program which offers financial rewards to schools and school districts for academic achievement. And with the leadership of business leaders across our state, parents, businesses and other members of local communities have become more involved in the activities and progress of our schools.

In one year our state made the greatest commitment to educational and economic excellence in its history. The Carnegie Foundation called it the most comprehensive educational reform package in the nation. We experienced a feeling of pride and satisfaction long missing in our state family and we enjoyed a positive notoriety throughout the United States and the world, while business leaders looked at SOuth Carolina with new appreciation and enthusiasm.

What progress have we made? Well, to get a full understanding you must examine recent history from two advantages: educational progress and economic progress.

The educational achievement has been both real and immediate. Successes in 1986 on basic skills test scores at all grade levels have already surpassed objectives set for 1989. SAT scores have already shattered expectations for 1989, causing us to raise our expected results even higher. We now lead the nation in school attendance. And over twice as many students are now enrolled in advanced placement courses as in 1983.

Despite higher standards and tougher evaluations, the number of teachers certified increased 40% in 1986. And, most importantly 83% of the teachers surveyed felt "enthusiastic" about their work.

Evidence mounts that the public is increasingly involved in our public schools. Enrollment in private schools went down for the first time. We realized a 30% increase in the number of school districts with a business/education partnership program. And, finally 310 schools and 5 school districts have received substantial financial awards because of exemplary academic achievement. All of this is directly related to the new spirit which had invaded every community in South Carolina. Everyone---parents, students, teachers, principals and business leaders---all feel a sense of responsibility about what is happening in our schools. They have been willing to pay for these new programs and now they expect results. But they also recognize there must be a true partnership for it to succeed.

The economic progress cannot be as easily documented, since our history of educational progress is so recent. Yet, there are some accomplishments to point to, and even more encouraging, some positive trends which bode well for our economic future.

In the last three years, we have garnered a new reputation in the world marketplace. Businesses which formerly never gave South Carolina a second look, now put us at the top of their lists. One business leader who was looking at South Carolina in the midst of the EIA campaign, was so impressed he decided to located his new facility in our state. Our economy is seeking and finding greater diversity in the kinds of job opportunities for South Carolinians. New employment in service and retail sectors is now growing almost as fast as in the manufacturing and industrial areas of our economy. What we are selling is and educational and training system second to none. A public school system committed to results in preparing our children with skills and knowledge to achieve and build our state. Confidence in that system is high especially among business leaders who continue to support that progress. And no one in South Carolina is ready to let this momentum diminish one iota.

Most of the education initiatives which have taken place over the last ten years have been spurred by states and localities. And education should continue to be a predominantly state responsibility. But I believe that the Federal Government has a very definite role to play as partners in the federal system. It is very much in our national interest to insure that our next generation is prepared with the basic skills to get a good job. Programs like Chapter I serve as a foundation for state efforts to improve basic skills and cannot be further eroded. Vocational education assistance is essential to help provide job opportunities for everyone. And special programs for those with learning disabilities and handicaps must continue to be supported by Congress.

But perhaps the greatest Federal role is to maintain an unwavering commitment to educational excellence across this country. We cannot expect to continue as a strong international force if we are intellectually and economically weak. We cannot expect to continue as protectors of freedom if we do not prepare the next generation with the technical and analytical skills necessary to operate new and sophisticated equipment. We cannot continue to be competitive in international markets if our workers do not measure up to the value and productivity of foreign workers.

In South Carolina and other states across this nation we have found education to be the key to keeping us competitive and unlocking the potential that exists in each one of us. While we still have a long way to go, we are beginning to realize a return on our investment. It saves business money by providing trained, educated workers. It saves governments money by keeping people off subsistence. And it offers hope and opportunity to another generation of young Americans who will help this country grow and prosper long after we are gone.

Representative SCHEUER. Thank you, Governor Riley. We are very grateful. Ms. Futrell.

## STATEMENT OF MARY HATWOOD FUTRELL, PRESIDENT, NATIONAL EDUCATION ASSOCIATION

Ms. FUTRELL. Thank you very much, Mr. Chairman and members of the committee. I would also like to extend to you my appreciation for permitting the National Education Association, representing 1,860,000 members and growing, the opportunity to testify today.

Representative SCHEUER. We are honored to have you.

Ms. FUTRELL. Thank you. Through the course of these hearings, this committee has heard a great deal about the relationship between education and our economic vitality and national security. This link, we believe, is very real. As we build for the future and work to improve the status of Americans in the present, we must make public education a central part of our strategy.

With this in mind, I would like to share with you NEA's thoughts in three areas: How far our system of public education has come in the latter half of this century; the need to take a broad view in considering education reform; and the need for a strong, consistent Federal role in education.

There is a notion reflected in the topic of today's hearing that America's public schools are in a tailspin; that our Nation is at risk and that if we return to the golden days of the past, everything would be fine. Yet, during the 1950's and before, most minority students in this country were relegated to separate but unequal schools, and I am a product of those schools.

Until the mid-1960's, few public schools had the resources, the programs, or the commitment to serve handicapped, limited English-proficient, or disadvantaged students.

Public schools today are quite a different story. America's public schools serve more students, more different kinds of students, better than ever before. Public attitudes about the public schools reflect that and, we believe, the long waiting lists at the Nation's top universities reflect that. The remarkable achievements of American people young people demonstrate that every day.

Many people, from Secretary of Education William Bennett to casual observers, say that spending for public education has increased in inverse proportion to the quality of education. We believe that this simply is not true.

During the time education spending has risen, the public schools have expanded opportunities for minority students, handicapped, women, the disadvantaged, those with limited proficiency in English, and many other students. These programs have been demonstrably effective. The public schools did not squander those resources. We invested them, and that investment has paid off.

Still there are challenges we must face. We would be the very first to tell you that there are many, many problems facing our schools and that our schools and our children are not performing at the level we would like for them to do so.

Identifying the needs in public education is not very difficult. They are much the same as they were 24 years ago when I started teaching in Alexandria, VA, at Parker-Gray High School, as a business education teacher. But it is pointless to talk about some of the panaceas being offered today when students and teachers are compelled to study and work in abysmal school facilities that are not just uninspiring but are, in many instances, unsafe; where we teach and learn in overcrowded classrooms; where isolation continues to be fostered; and where teachers are not really involved in the decisionmaking process.

These conditions make a mockery of our rhetoric of building for the future. We are here today to talk about high schools, but the needs of secondary education in my opinion cannot be treated or addressed in isolation from a discussion regarding early childhood education, elementary school, postsecondary schools, or a society at large.

Current national policies on prenatal and postnatal care, childhood nutrition, health care, and early childhood education will have a significant impact on the quality of secondary education two decades from now.

For example, we believe very strongly that one of the ways to give young people a better educational foundation is to expand our early childhood education programs so that children as young as three and four will have greater opportunities to have access to programs such as Head Start and other programs.

We are here to talk about high schools, but we cannot ignore the impact of the current state of the American family on our schools. About one quarter of the Nation's public schools, as Speaker Katz indicated, live in poverty. It is projected that by the year 2020 that number will increase to 40 percent. One out of five white children live in a single parent home, and 60 percent of all black children in this country are living in homes headed by single women.

We cannot ignore the problems of chemical abuse, sexual promiscuity, teenage suicide, and other circumstances that place our Nation's young people at risk. If we are serious about addressing the conditions of public schools, we cannot ignore the conditions of children who come to those schools.

We are well aware of the problems in education, as I indicated. The question is: What are we going to do about them? We cannot address these needs by simply raising the number of credits needed for graduation. We cannot do so by simply saying we are going to address one segment. And most of the reform movement, Mr. Chairman, has focused on the high schools. Very little has really focused on elementary schools and on our early childhood education programs.

The reform movement has shifted and more of it now is beginning to focus on postsecondary education.

We believe that we need comprehensive programs in the areas of nutrition, health care counseling, and other services but we can make progress, we believe, only if families and communities and States and the Federal Government work with those of us who are in the education community.

There are, of course, steps we can take to enhance the quality of academic instruction. If you want to improve the standards for curriculum, materials, and teaching methods for public school students, and if you want to improve the standards of preparation, certification, and evaluation of public school teachers, you will find a very strong ally in the National Education Association in our State and local affiliates.

We have tried to address many of the concerns you discussed this morning with Speaker Katz and with Governor Orr, and we will continue to try to bring about change. We believe very strongly that the teachers, especially the members of the NEA, are strong leaders in this area.

Because of our experience and because we will be responsible for carrying out any plans implemented in a local school district, teachers first of all must be intimately involved in the decision-making process at every level, whether we are speaking of the local, the State, or the national level.

Allow me to give you a few examples of how NEA is making a difference, and why giving teachers a voice is so important. One example in my prepared statement is the Mastery in Learning Project, where we have put into effect a program in 27 school districts so that teachers and administrators and parents working together can redesign schools to more effectively enhance the quality of education for all children.

Basically what we said to the teachers of those school districts was, "we want you to identify priorities and then come up with strategies to address those priorities."

Through our Operation Rescue Program, again a school-based, community-based program, we have addressed the dropout issue in America. We are coming up with ways to solve that problem. We are involved in efforts at the State and local level to improve teacher evaluation and staff development, and we are taking part in the newly established National Board for Professional Standards, to provide leadership to States in the areas of teacher preparation and certification in an effort to achieve our goal of qualified teachers in every classroom.

Now, as teachers, students, and parents rededicate themselves to educational excellence and equity, we ask that those responsible for governing and financing public education rededicate themselves as well. Education is primarily a State and local responsibility, but there must be a strong, consistent Federal role in education. The Federal Government has a clear responsibility to provide resources for equity, for access, and to help students at risk.

The Federal Government should provide leadership and resources to meet national needs and priorities in public education. Moreover, where Federal programs and policies impact on education or on State and local financial support for education, the Federal Government has a responsibility to help ensure that its actions do not adversely affect the education of the Nation's students.

When the Federal Government fully meets this obligation, State and local school districts will be better able to meet theirs.

Americans understand the relationship between adequate resources and educational excellence, and they believe we must invest in education, both academic programs and the ancillary services that ensure students are ready for school.

Mr. Chairman, America can create new opportunities for growth and prosperity. We can enhance the quality of life for every single

American. But, like any other enterprise, it will take a sound investment, it will take time, it will take a lot of energy.

We believe that public education is worth the investment. With adequate Federal support, we can provide a system of public education that is more than adequate. We can provide a system that is excellent. Thank you very much.

[The prepared statement of Ms. Futrell follows:]

# PREPARED STATEMENT OF MARY HATWOOD FUTRELL

Mr. Chairman and Members of the Committee:

I am Mary Hatwood Futrell, president of the 1.86 million-member National Education Association. Our members include public elementary, secondary, and vocational school teachers and support personnel, and postsecondary faculty and staff. We appreciate the opportunity to talk with you about an issue of great importance to our nation's future: the relationship of quality education to our nation's economic security.

Our nation's most precious goals — liberty, equality, economic vitality, and national security — are wholly dependent on what we do today to provide quality public education to all Americans. Quality educational opportunities must be available to all beginning in early childhood and throughout life.

Through the course of these hearings, this Committee has heard a great deal about the relationship between education and our economic vitality and national security. The link between education and the future is very real. Our economic stability will require that all our citizens have the skills to make a contribution to society. Education provides people with the skills to be successful in the workplace, and it lessens the need for costly social services. As we build for the future — and work to improve the status of Americans in the present — we must make public education a central part of that strategy.

With this in mind, I would like to share with you NEA's thoughts in three areas: how far our system of public education has come in the latter half of this century, the need to take a broad view in considering education reform, and the need for a strong, consistent federal role in education.

## Education in the Past

There is a notion — reflected in the topic of today's hearing — that America's public schools are in a tailspin, that our nation is at risk, and that if we return to the golden days of the 1950s everything would be fine. But, throughout the 1950s public opinion clung to the same truism that many people embrace today — that American schools had suffered a decline from previous years. And yet, during the 1950s and before, millions of students were tragically underserved or shut out of the system entirely. Most minority students were relegated to separate but unequal schools. Until the mid-1960s, few public schools had the resources, the programs, or the commitment to serve handicapped, limited-English-proficient, or disadvantaged students.

The public schools today are quite a different story. America's public schools serve more students, and more different kinds of students, better than ever before. Public attitudes about the public schools their children attend reflect that. Long waiting lists at the nation's top universities reflect that. And the remarkable achievements of American young people demonstrate that every day.

Many people, from Secretary of Education William Bennett to the casual observer, say that spending for public education has increased in inverse proportion to the quality of education.

This simply isn't true. During the time education spending has risen, the public schools have expanded opportunities for minorities, the handicapped, women, the disadvantaged, those with limited proficiency in English, and many other students. These programs have been remarkably, demonstrably effective. Not only have educational opportunities been expanded for millions of young people who were previously unserved or underserved, but consequently these members of our society have derived greater opportunities in life. The public schools did not squander those resources, we invested them. And that investment is paying off. Persons who earlier might have been denied access to education now make contributions to our society, great and small, every single day. And yet, many of the problems in our schools are the result of trying to do more with less as the commitment to full educational opportunity ebbs.

The current interest in improving public education is a peak on the roller coaster of popular attention and neglect that the public schools have experienced for many years. Identifying the needs in public education is not difficult; they are much the same today as they were 24 years ago when I began my teaching career at Parker-Gray High School. What has been lacking all along has been the commitment to establish and maintain comprehensive programs to address those needs in a meaningful way.

It's pointless to talk about some of the education panaceas being floated today when students and teachers are compelled to study and work in abysmal school facilities that are not just uninspiring but are simply unsafe. Too many school libraries have meager collections of outdated books. Too many students are denied an opportunity to learn physics, chemistry, foreign languages, or dozens of other subjects because their schools simply do not have the resources to hire a qualified teacher. These conditions make a mockery of our rhetoric of building for the future. You can go to your states and your Districts and find these conditions without great difficulty.

The financial base of America's public school system is very complex. State and local support of public schools varies greatly according to tax base and commitment to educational excellence.

There is no single model for school finance that will meet every school's need or every political reality, but each community should support its local schools to the fullest extent of its financial ability. When the tax base is so low that it is insufficient to meet local needs, the states should provide assistance. Moreover, the states should ensure that all children within their jurisdiction have equitable opportunities to excellence in education. And the federal government should — at the very least — fully meet its obligation to ensure quality education for disadvantaged, handicapped, limited-English-proficient, and other special needs students it presently serves.

National polls have repeatedly shown that Americans understand the relationship between adequate resources and educational excellence. If we as a nation are serious about improving education, we must invest in education — both academic programs and the ancillary services that ensure students are ready for school. Excellence in education depends on the combined resources of federal, state, and local government, and Congress has the opportunity to provide leadership to state and local governments by fully meeting its obligation to students at risk.

Still, there are students who are failed by our present system of public education, and there are many more students who fail to take advantage of the opportunities presented in our nation's public schools. We must take steps to reach these students at risk, while continuing in those areas where we have been successful.

## Strategies for the Present

We are here today to talk about high schools, but the needs of secondary education cannot be treated in a vaccuum. Current national policies on prenatal and postnatal care, childhood nutrition, health care, and early childhood education will have a significant impact on the quality of postsecondary education two decades from now. We are here to talk about high schools, but we cannot ignore the impact of the current state of the American family — economic policies that result in one-quarter of the nation's children living in poverty, alarming statistics in the areas of chemical abuse, sexual promiscuity, and teenage suicide.

Our nation is faced with a number of serious social problems, as well as changes in the demographics of the American people. About one-quarter of the nation's public school students live in poverty; about one-third will not complete their formal education; one out of five white children lives in a single-parent home, and sixty percent of all black children are living in homes headed by single women.

There are many other social obstacles to educational excellence. According to the Committee for Economic Development, children may fail in school for a wide range of reasons.

o They may come to school poorly prepared for learning or not yet ready developmentally for formal education.

o Their parents may be indifferent to their educational needs.

o They may be the children of teenagers who are ill-equipped for parenting.

o They may have undiagnosed learning disabilities, deep-seated emotional problems, or physical handicaps.

o They may have language problems or come from non-English-speaking homes.

o They may experience racial or ethnic prejudice.

Although children in need are concentrated in urban areas, 60 percent of disadvantaged youngsters are dispersed throughout the rest of the educational system.

At the same time, we have seen a growing incidence of social problems that have an adverse effect on our educational system.

o About one-fourth of all high school students regularly smoke marijuana.

o More than two-thirds of all high school students use alcohol.

o 20 to 40 percent of all students have a parent who abuses drugs or alcohol.

o The teen birth rate in the United States is higher than that of any other developed country. Approximately 80 percent of all teenage mothers drop out of school.

o Every day in America, 40 teenage girls give birth to their third child.

o One out of three girls and one out of eight boys under 18 have reported incidents of sexual abuse.

o Some 90 percent of all child abuse and neglect reports occur in the child's home, as opposed to institutional settings.

If we are serious about addressing the conditons of public schools, we cannot ignore the condition of students. We cannot address these needs by simply raising the number of credits needed for graduation. But there is not a single one of these problems that we cannot overcome. Families, communities, states, and the federal government must work together to ensure that all students are able to take advantage of educational opportunities.

## A Vision of the Future

If you want to improve the standards for curriculum, materials, and teaching methods for public school students, if you want to improve the standards of preparation, certification, and evaluation of public school teachers, you will find an ally in the National Education Association and its state and local affiliates.

NEA has a blueprint for our efforts to achieve educational excellence for all — not a report to throw on the pile of other education reports, but a plan for action that our members are committed to implementing. This plan is based on nine principles.

Students must master what is taught. The objective of education should not be mere passing grades but a demonstrated grasp of the fundamentals, the competent use of skills, and command of subject matter. Mastery of what is taught is the standard of excellence with schools offering a comprehensive curriculum, organizing time and providing resources for this purpose.

Students must be active participants in learning. There must be high expectations for student performance, environments free from disruptive behavior, and learning activities designed to improve student initiative. Students must be involved in questioning and exploration rather than be passive recipients of information.

Full learning opportunity must be available for all students. All students must be provided varied and appropriate learning opportunities that will enable them to realize their individual potential, irrespective of economic, social, physical, or psychological condition.

Learning must occur throughout life. Appropriate opportunities for learning must be available in all school districts for all age groups. NEA supports early childhood education for children as young as 3- and 4-years-old.

Authority must be vested in the local school faculty. More appropriate decisions about teaching and learning are made by those closest to students and the community — school staff members.

School staff must be professionally compensated. Teacher salaries must be commensurate with those in comparable professions in order to attract and retain the best teachers.

There must be high standards for teacher preparation and practice. Professional competence must be rooted in intellectually stimulating and demanding teacher preparation programs, rigorous personnel evaluation procedures, and meaningful professional and staff development programs.

School/community resources must be coordinated to benefit students. Problems not directly related to learning but affecting students' ability to learn must be resolved by school/community collaboration and coordination.

Adequate financial support for education is essential. Excellence in education depends on the combined resources of federal, state, and local governments.

NEA members work on an ongoing basis to influence policymakers at every level to bring about projects, programs, and policies that will make schools better. But we have strong opinions about what we think will work and what will make a significant difference — opinions based on firsthand, day-to-day experience. Because of their experience, and because they will be responsible for carrying out any new plans, teachers must be involved in the decision-making processes at every level that affect the public schools. Allow me to give you a few examples of how NEA is making a difference, and why giving teachers a voice is so important.

## Mastery in Learning

If we're serious about changing the schools, we've got to empower the people who do the educating: the teachers. NEA has taken the lead in establishing models for educational leadership at the school building level. NEA's Mastery in Learning Project is now in operation at 27 schools in 19 states. The purpose of the project is to demonstrate to educational policy-makers that a faculty-led, school-based approach holds the key to improving all public schools.

The Mastery in Learning Project provides teachers with the resources to figure out how best to meet the needs of their students and the structure to implement the changes. Achieving real mastery involves restructuring our schools — looking at learning styles, teacher and student roles, instructional strategies, student materials, the use of time. But each individual school has to be restructured differently, based on its own students and community. And it's up to the faculty to determine what is best for each school.

In each project site, the school staff meets to develop a detailed description and evaluation of their school using instruments developed by the project. The staff then decides on four to six priorities to work on during the first year of the project and forms committees for each priority area. Participants are finding that — despite the diversity of the participating schools — the problem areas identified by the faculty are very similar. Among the goals set by Mastery in Learning participants are projects to address discipline, parental involvement, critical thinking skills, self-esteem, professional development, communication among staff members, grouping of students, and students at risk.

Next, the Mastery in Learning Project helps put research into the hands of teachers so they can apply it to their students and their schools through a system called Teaching Resources and Knowledge. The Teaching Resources and Knowledge system coordinates information-sharing among the participating schools based on educational research and the effective practices of other participating schools. Not only does this provide a means for focusing on critical local needs, but it also helps the schools' faculties work together with a renewed commitment and desire to improve professionally. By supporting the Mastery in Learning Project, NEA is proving the effectiveness of teacher-led education reform. The success of this program is evidence that policy-makers should support this type of approach at every level.

## Teacher Evaluation

NEA believes there should be a qualified teacher in every classroom. One of the ironies of education reform is that too many of the proposals currently advanced by some educational experts would undermine this goal. The most direct way of assuring a qualified teacher in every classroom is to maintain high standards in preparation and certification — not to undermine standards through ''alternative certification;'' to monitor progress of current teachers through a comprehensive evaluation process — not to take a one-shot measure of a narrow range of skills through a paper-and-pencil competency test administered to practicing teachers; to provide professional development opportunities for all teachers — not run teachers in and out in five-year cycles; and to provide professional compensation for all teachers — not set up divisive differential salary schemes.

For many years, NEA has advocated teacher evaluation tied to professional development as the solution to public concerns about the quality of teachers. This approach has many advantages. First, evaluation — if properly done — takes into account the whole range of skills needed to be an effective teacher, including mastery of subject matter, pedagogical skills, and interpersonal skills. Second, by providing professional development opportunities in concert with needs identified during evaluation, local schools can provide a means for marginal teachers to improve and good teachers to get better. Equally important is the fact that this process guides individual teachers into the areas where they need assistance, be it in mastery of subject matter, classroom management, or something else.

But professional development opportunities need not be seen as merely remedial. Most educators have a strong, personal commitment to personal and professional growth, and therefore providing education employees with opportunities to learn is considered a perquisite, rather than an odious requirement, particularly when teachers have a hand in developing their own professional development program.

One approach to professional development which proved highly effective was the program of national teacher centers, which Congress authorized in 1979. These teacher centers provided teachers with ongoing opportunities for professional growth, including inservice training and cooperative efforts to develop curriculum and materials. Teacher centers were administered for teachers by teachers, not imposed by local education agenices, institutions of higher education, or some other entity.

Teacher centers established a place, means, and materials for teachers to share information on effective teaching practices, classroom management, innovative materials, and other activities that allowed them to renew their skills and enthusiasm.

NEA state affiliates have worked with state legislators — as well as at the local level — in an effort to establish effective evaluation procedures tied to professional growth opportunities. In addition, NEA supports federal assistance to support Professional Development Resource Centers and other programs for enabling practicing teachers to improve their skills.

NEA is involved in many different arenas in the effort to achieve the national goals of excellence and equity in public education. Not only do many individual NEA members serve on committees to make recommendations about curriculum, materials, and other academic matters, many local affiliates — as part of a collective bargaining effort — advocate for such proven education reform ideas, such as lower class size. NEA members are active in state-based efforts to establish high standards and adequate resources for education programs at every level, and we work at the federal level to establish and support programs to implement national goals in education. Moreover, we are taking part in the newly established National Professional Standards Board to provide leadership to states in the area of teacher preparation and certification.

## The Federal Role

While education is primarily a state and local responsibility, there must be a strong, consistent federal role in education. The federal government has a clear responsibility to provide resources for equity, for access, and to help students at risk. In addition, the federal government should help provide leadership and resources to meet national needs and priorities in public education. Moreover, where federal programs and policies impact on education — or on state and local financial support for education — the federal government has a responsibility to ensure these actions do not adversely affect the education of the nation's students.

As the example of the Mastery in Learning Project demostrates, many of the most important decisions can and should be made at the local level. But the federal government can help promote quality education by ensuring that each child who enters the classroom has a decent chance at success, that each school district — regardless of it local wealth — can provide quality educational opportunity, and that each state — regardless of fluctuations in regional economies — has the information and the resources to provide leadership at the state level.

In 1965, the Congress set as a goal the improvement of educational opportunities for disadvantaged students. Since its creation, the Elementary and Secondary Education Act — particularly compensatory education programs for disadvantaged students — has proven to be an effective and efficient way of ensuring that students living in poverty have a decent chance in the schools and in society. But today only around half of the eligible students are served in Chapter 1 compensatory education programs. The shortcoming is not due to a lack of understanding about what the problem is or what the solution is, but in not being fully committed to implementing the solution. The same situation exists in federally funded bilingual education programs where only about one-tenth of the eligible students are served and in handicapped education programs where the federal government provides only about seven percent of the costs of federally mandated handicapped education services.

Federal support for education has vacillated widely in recent years, from more than nine percent of total education spending in

1980-81 to around six percent in 1986-87. When the federal government fully meets its obligations, states and local school districts, in turn, will be better able to fund programs adequately to meet theirs.

Mr. Chairman, without a strong system of public education there can be no national security, there can be no economic development, there can be no progress in any area. The progress in public education — which leads to progress in every other area of our national life — is a direct result of an educational partnership of federal, state, and local governments.

America can create new opportunities for growth and prosperity. We can bring up the quality of life for all Americans. But like any other enterprise it will take a sound investment. Public education is such an investment. With adequate federal support, we can provide a system of public education that is more than adequate. We can provide excellence.

Representative SCHEUER. Thank you very much, Ms. Futrell. Mr. Murphy.

## STATEMENT OF JOHN A. MURPHY, SUPERINTENDENT, PRINCE GEORGE'S COUNTY PUBLIC SCHOOLS, MD

Mr. MURPHY. Mr. Chairman, I will attempt to, in a few minutes, share with you the strategy that we are employing in Prince George's County to deal with the subject that is on your agenda today, what we can do to correct the problems that we currently have in the work force in America.

Prince George's County is one of the Nation's largest school systems. We have 103,000 students. Sixty-two percent of our enrollment is black. And we have an ambitious goal in our school system. We have said by the year 1990, we expect to have our school system performing in competition with the best school systems in America. Our goal is to reach the top quartile academically. I am very pleased to say that we are on target. We perhaps will meet that goal a year ahead of schedule.

We are on the firing line dealing with reform on a daily basis, so I think we know in Prince George's County what reform is all about.

I am going to take exception with one of the previous speakers who made the comment that educators are the most reluctant people to support reform. I don't find that true at all. I find that classroom teachers are very excited about change and very anxious to——

Representative SCHEUER. Excuse me. Ms. Futrell, you are shaking your head in assent; is that correct?

Ms. FUTRELL. Yes. I am agreeing with the superintendent.

Mr. MURPHY. I find the greatest supporters of change are classroom teachers who want to be able to find new ways to deal with the complex problems that we are facing in the public schools.

I think there is a critical need in our country to stop passing the buck. We must stop blaming one another for the problems and come together as a nation to truly place education and the children of our Nation as our top priority. If we can come together and deal with the problems cooperatively, seeking solutions, I think we have an answer at hand.

In Prince George's County we have attemptd to do that with our business community. We have brought our business and industry community closely into partnership with the school system.

Calvin Coolidge once quipped that the business of our Nation should be business. We contend in Prince George's County that the business of business should be education. If we truly want to deal with the future generations of our Nation, our business leaders have to join with our school system to work with us to find solutions to our problems.

We have coined a new phrase in Prince George's County that we call "edunomics." We have our educators and our business people sitting down, truly looking at a problem, and coming up with solutions. One of those solutions that we are going to share with you today deals with the quality of graduates entering the workplace.

A year ago, I asked our Business Advisory Council to come together and specifically address that problem, to take a look at the quality of graduates coming out of the Prince George's County schools and give me a true assessment of the deficiencies that existed. Not only did I want to hear about the deficiencies, but I also wanted them to identify for us those specific skills that they expected every graduate from Prince George's County to have as they entered the workplace.

Our business community took on that task. They enthusiastically went about the process of assessing, all of the employers within the county. They gave us a complete critique of the problems that existed with our graduates and gave us a listing of skills that they expected every graduate to have as they entered the job market so that they would be competitive.

We then agreed to not only include those skills, make sure those skills were included within our curriculum, but to develop a process to test those skills so that every graduate would be tested to determine whether or not they had the skills that the workplace was demanding.

We went one step further, and suggested to our committee, who then made the final recommendation to our board, that we have a guaranteed diploma for graduates from our school system; that if a student goes through the high school program in Prince George's County and is tested out, having acquired those skills, we will give that student a guaranteed certificate to take to an employer. That will tell the employer that this youngster is ready to go to work and will meet the employer's expectations.

We further said to the employer, if you receive one of those graduates and they don't perform, they have not met those standards, send them back and we will educate them at our cost in our adult education program. You don't have to invest your money in retraining graduates of public schools that should be properly equipped to do the job. Your tax dollars has already paid for that education and it should be an effective use of the dollar the first time around. And if we haven't done the job, then we will redo it at our expense.

The business community has endorsed this project. Our board of education has endorsed this project. We are now in the process of defining more specifically the types of test instruments that we will use to identify whether or not youngsters have proficiency. We will be including these various skills in all facets of the curriculum. The skills are broad in range. They include communications and math skills, a whole array of skills that you would expect to have an entry level person to have when they leave public schools to enter the workplace.

We feel confident that this type of cooperative relationship will continue in Prince George's County, and that as we continue to work with our business community, not only will we be sending them qualified graduates, the whole process will be motivational for those students who are coming into our schools because, in a relatively short period of time, youngsters are going to come to the realization if they don't have that guaranteed slip when they walk out with their high school diploma, they are not going to get employed. They know full well what is needed to get the job that is going to pay well, and I think they will pay more time and more attention to acquiring those skills within the public school setting. Thank you, Mr. Chairman.

[The prepared statement of Mr. Murphy follows:]

# PREPARED STATEMENT OF JOHN A. MURPHY

SUPERINTENDENT
PRINCE GEORGE'S COUNTY PUBLIC SCHOOLS
PRINCE GEORGE'S COUNTY, MARYLAND

## SERIES

"COMPETITIVENESS AND THE QUALITY OF THE AMERICAN WORKFORCE"

## TOPIC

"THE SCHOOLS: WHY HIGH SCHOOL STUDENTS FAIL TO MEET THE STANDARD AND WHAT TO DO ABOUT IT"

Mr. Chairman and distinguished members of the Subcomittee on Education and Health of the Joint Economic Committee, I appreciate the opportunity to share some thoughts with you on why high school students are not meeting the standards needed in the American workforce, and some suggestions as to what can be done about it.

Before I do, I would like to take this opportunity to thank publicly for their outstanding contributions to the Prince George's County School System's Advisory Council for Business and Industry's Career Education Task Force: Mr. Raymond LaPlaca, Advisory Council President; former County Executive and present Maryland Secretary of State, Winfield M. Kelly, who served as Task Force Chairman; and Dr. Louise Waynant, Associate Superintendent of Instruction, who served as co-chairman for the school system. For the representatives from 24 different businesses and the many school system personnel that served on the many sub-committees, I would also like to extend my heartfelt thanks.

And now for the task at hand--the Prince George's County, Maryland, School System, like many others across the country, is aware of the increasing inequity in the skill level of the average "line workers" in the American labor force as compared to their counterparts in other countries--our competitors in the world marketplace.

We recognize that most of the students at academic risk in our Nation's high schools have not acquired the necessary "fail-safe" level of competence in basic skills, and thus are jeopardized and at risk in their qualification for higher skills training for the workforce.

As a Superintendent of a large school system, I support the need for raising standards and requirements, as recommended in a majority of the reform studies, but do not believe that curriculum and instruction are improved merely by spending more time with the subject at home or in school. My concern is not so much in revising textbooks and tests as it is in improving the art of teaching and classroom management, and establishing standards of excellence that are adhered to by the principal and teacher as evidence of their accountability. We must be interested in the quality of staff services offered rather than just the delivery system, the hours, and the compensation.

The challenges facing public education in Prince George's County, as in other parts of this country, are not limited to the need for more and better teachers, tests or textbooks. Schools reflect the global community whose tensions and turmoil do not remain outside the classroom door. We in education must share with the families, religious institutions and community organizations the responsibility of combating the social ills that assault our young people. A place where students are supposed to spend six hours a day, five days a week, 180 days a year, must demonstrate initiative and courage in addressing these problems.

If it appears that I consider accountability an important ingredient in the quest for educational excellence, then I have understated my case. Accountability from every member of a school system staff is more than important, it is necessary and, yes, essential, if we are to maximize the educational accomplishments of the young people in our charge.

There is another element, however, beyond our school walls and our own accountability system that is crucial if we are to reach the degree of effectiveness needed to deliver the right product to the workplace. That vital element is to involve the workplace itself--business and industry, the recipient of our finished product--in the improvement of educational programming.

Recognizing that schools play a critical role in the future success of the local economy is the first step in redirecting the energies of discontent. Astute business leaders are very aware of the role schools play and no longer are content to point fingers at their schools and say... "They've got problems." Instead, the wise business leaders assess the situation and say..."We've got problems." When that occurs, the process of healthy, cooperative interaction brings about positive gains for the school system.

President Coolidge is remembered for saying, "The business of this country is business." I would submit to members of this committee that it's time that the business leaders of our country recognize that "the business of business is education."

Don't misunderstand me, I am not saying that business should pay for education--the public schools must be tax supported. We do, however, need the support of business for the resources they can offer to the public schools, not the least of which is the quality of their expertise and leadership. I believe that there is a direct relationship between the time that business leaders ceased to play a direct role in education in this country, to when the education of public school youngsters ceased to be our top priority nationally. That priority was eroded through default when business leaders in the community stopped influencing the schools through boards of education. We lost their clear thinking and input on educational policy decisions as a result.

We must reestablish the relationship between educational leadership and the leaders in the economic sector. And if you will forgive me for coining a new word, this "Edunomic" change would be a merger of business and public schools into a mutually beneficial partnership. The bottom line of this partnership is the development of a finished product--the graduates of our public schools--who are willing and able to take their place successfully in the workplace.

I am pleased to report that the Prince George's County Schools have embarked on "Edunomics" and have aggressively reestablished the relationship between educational and business leaders.

Shortly after my arrival as Superintendent, I reactivated the Advisory Council for Business and Industry, which includes among its members, executives from leading businesses and industries, law firms, banking and financial institutions, and computer and technology corporations.

Through a non-profit foundation, the Council has developed active industry--to classroom partnerships, teacher recruitment/incentive programs, public relation campaigns for the school district, exchange programs, marketing assistance, executive lecture series and a summer employment program for teachers.

In order to keep within the topic assigned today, I merely mention these programs in passing, as examples of what a school system and the workplace can accomplish by working together.

Our Advisory Council has also made a major contribution to our effort to ensure that high school students "meet the standard"--the topic on the agenda today.

In the Fall of 1986, the Advisory Council for Business and Industry accepted my challenge to look at the employability skills of the graduates of the Prince George's County Public Schools. It was a massive undertaking and, I have no doubt, one of the most unique tasks ever attempted between a public school system and its business and industry community.

I asked the Advisory Council to bring me the business viewpoint, to gather business representatives to review the curriculum and examine the quality of graduates currently entering the job market, and then to assist the schools in designing a total curricular approach to correct any noted deficiencies. The bottom line was simple: help the school system ensure that every one of its graduates has the basic employability skills to succeed in the world of work. If each graduate has such skills, then his or her employer could begin to overcome the first obstacle to the competitiveness problem: the shortage of quality employees.

We agreed that by working together, the business community and the school system could create conditions that would allow the schools to meet our mission. That mission "is to assure that all students acquire knowledge and develop the skills and work habits to enable them to become productive members of society."

Our schools felt so strongly about fulfilling this mission that we encouraged the Council to recommend the implementation of a "guaranteed" diploma program. The Council adopted this recommendation.

The "guarantee" will certify whether or not a student who graduates from the Prince George's County Public Schools has mastered the employability skills as defined by our Advisory Council. A certificate accompanying the high school diploma will boldly verify this accomplishment. If a local employer hires one of these "guaranteed" graduates and finds that his or her skills do not meet these standards, the school system will enroll that student in adult re-training programs at our cost.

The following represents the complete set of Advisory Council recommendations:

Employability Skills

- Every student, upon graduation, should be able to demonstrate proficiency in these employability skills areas: reasoning and problem solving, reading, writing, computation, communication, interpersonal relationships, and social and economic studies. Students should also demonstrate good personal work habits and attitudes.
- The school system should infuse career education programs through every grade level.
- Certain units of study currently in place should be presented at more appropriate grade levels for better concentration of time and effort.

- Each high school should have a fully staffed Career Center and adequate materials.
- Retitle "Vocational" programs to remove the stigma of second-class education.
- Provide certificates noting mastery of employability skills to all high school students who succeed in these career education programs.

Monitoring System

- A monitoring system for ensuring that all students master these basic employability skills should be established through the school system's Criterion Referenced Testing Program.
- Survey businesses to assess quality of recent graduates who have been hired.
- If a graduate does not demonstrate these basic skills at the workplace, that student should be enrolled at no charge in the school system's Adult Education/Evening /High School program for remediation.

Student Programs

- In addition to infusion programs and rescheduling certain career education programs at more appropriate grade levels, require the completion of a 12th grade, one semester course to provide every senior with a "hands on" approach to business.
- Mobilize the business community to take an active role in such programs by serving as guest lecturers, providing field trips and serving as advisors.

Teacher Programs

- Continue to provide summer jobs and seminars for teachers who are interested in learning more about economic development.
- Develop courses for teachers to highlight education's role in economic development.
- Establish a Round Table discussion program for businesses and teachers.

In conclusion, we in Prince George's County believe that zeroing in on employability skills in general, and implementing a guaranteed diploma program in particular, will go a long way to ensuring the growing competitiveness and quality of the American workforce.

Thank you for your time.

Representative SCHEUER. Thank you, Mr. Murphy. Ms. Hatton.

## STATEMENT OF BARBARA R. HATTON, DEAN, SCHOOL OF EDUCATION, TUSKEGEE UNIVERSITY

Ms. HATTON. I am going to be as brief and succinct as I can in describing what is the most complicated and difficult job of anyone at the table, and that is the job of preparing excellent black teachers today.

When we started in our task at Tuskegee University in the School of Education to prepare good teachers who are predominantly black—most of our enrollment is—several things occurred all at one time and these things are very important to realize.

First of all, we had the early reform standards in the South in place and, as you know, these standards basically boil down to new tests and the publication of institutional performance on those tests.

We had a new president at our university, and we were beginning to see the disappearance of the black teacher. All of these things sort of occurred together and put us in a situation where here we were on the front page, with our graduates, our teacher education graduates scoring among the lowest in our State.

We have changed that at Tuskegee. Our graduates are now scoring consistently with the other schools who are performing well in our State, and I would like to take just a minute this morning, Mr. Chairman, and tell you what we have been doing. What we have been doing I think is an example of what was advocated earlier by the first panel, and that is holding ourselves accountable to student progress outcomes. Without any outside pressures beyond the new professional standards an without any money, we have begun to receive results from what we call our Value Added Teacher Preparation Plan.

We began with an outside assessment. I happen to have been on that assessment team to go into the university, and then return later as a dean. If you ever do something like that, be careful what you say. You might have to "eat it" some day. I did.

I am very pleased with our report to tell the president what to do with his School of Education, how to get it to perform at the new professional standards, and to exceed them, and pleased to lead the program in performing the tasks recommendations in that report.

Basically we employed a fundamental principle of only doing well what we do. We are only going to do those things at Tuskegee that we can do very well. And we are going to justify everything that we do in terms of student progress. If we cannot show that something is contributing to the progress of our students, we are committed to eliminating it, changing it, whatever we have to do; but we have no sacred cows in our school. We are too small and too poor for that.

We have also decided that we would only be good about what we are doing; that we would have no more front page stories about the poor performance of our graduates. Therefore, the first step we took was to downsize, which you know is a very difficult thing for a new dean to come in and do. I am supposed to add programs; I am supposed to tell you all the good things I do for you; I am not supposed to come in and cut out programs. But that is exactly the first thing that we did.

We now call outselves the "lean mean machine" on our campus. We dropped 15 certification programs. We offer nothing beyond the master's degree. We have a scope and condition that we can handle. We can afford what we do. We have the appropriate support in the liberal arts and sciences for what we do. We can manage what we do. We can do well what we have left in our program.

We are small. We have no projection project for major growth. We are highly tenured, but yet committed to producing excellent teachers and also to guaranteeing opportunity. Clearly we could have adjusted the front page story by simply screening out those students who couldn't pass the test. We will not do that at Tuskegee. We are committed to developing students who can pass the tests.

Just to be brief, let me just say that our improved passing rate is based on the downsizing, based on faculty development, based on course revision, and based on intensive work in preparing students. Our passing rates on the Alabama Initial Teacher Certification Test have increased to a minimal level of 70 percent consistently in the past 2 years. We have new collaborative relationships with our local public schools and the College of Arts and Sciences at our campus. We have new curricula in place and test preparation activities, and we have recruited good quality faculty in critical areas of science education and early childhood education and there are a number of other things we are doing.

The point, Mr. Chairman, is simply that what we have done at Tuskegee has been repeated at many of our black colleges and universities throughout our Nation. However, there is a major problem which we cannot address with these kinds of efforts, and that is that the number of students enrolled in these programs is very low. The programs at historically black colleges and universities cannot be expected to produce within the resources that they have, even at the current level of reform and excellence, the required number of teachers that we will need to staff our public schools and to correct the projected imbalance where, in a very short time now, we will have a largely white teaching force with a largely minority public school population.

Therefore, I am concerned that we begin to do something to incorporate new strategies in our education reform efforts, to increase the numbers of qualified black and minority teachers, and to provide incentives to colleges and universities to work toward this goal.

Basically, I think there are three strategies that will help to achieve this goal. First of all, I think we must be very careful in improving and increasing the number of students who go on to college, the number of black and minority students who go on to college. The numbers are declining and we are having a shift in the types of students who are going to college.

Much of this, I am beginning to believe—I have read a number of papers, as have you, that this is due to the new standards, people can't meet the standards, or to options opening up for blacks, and that they are spreading out in other areas—but I am increasingly convinced by studies, minor studies at this point, which indicate that our financial aid policies for college attendance are helping to move black students particularly away from 4-year college attendance and into proprietary schools and into the military service.

We are finding increasing numbers of students are moving in that direction from high school, rather than to the 4-year college program. One of the reasons for this is our increasing reliance on loans for financial aid for college attendance. At our own campus, the proportion of our financial aid given in loans each year is creeping up, dramatically creeping up. We are experiencing about a 4-percent increase every year, even though we are giving more in financial aid in loans. This is the kind of disincentive to college attendance which works greater as a disincentive for black students than it does for white students.

Our assessment instruments are designed to assess minimum competency and provide an incentive for colleges to screen students out too early to protect their programs statuses with State regulatory agencies and to protect their images. Instead of using these instruments in such punitive ways, we should be improving these instruments so that they can be used as a basis for rewarding schools that develop and take the time and the investment, as we have at Tuskegee, to develop students to met the standards.

Finally, without the leadership we have had at Tuskegee, we could not have accomplished what we have done in 3 short years, and therefore, we must put forth efforts to develop leadership, support leadership skills when we find them in good leaders, and to place these leaders in our schools in supportive relationships.

I hope you haven't gonged me yet, but anyway I am going to close with that comment.

[The prepared statement of Ms. Hatton follows:]

# PREPARED STATEMENT OF BARBARA R. HATTON

Title: "The Schools: Why High School Students Fail to Meet the Standard and What to Do About It - Part II"

Barbara R. Hatton, Dean
School of Education
Tuskegee University

October 27, 1987

I have been asked to address the problems faced by predominantly black teacher education institutions as education standards rise and what schools like Tuskegee are doing to meet the economic challenge as related to the need for teachers. I would first like to briefly describe our efforts at Tuskegee and then move to a discussion of needed government action.

Since 1983, shortly after the appointment of President Benjamin F. Payton, the School of Education at Tuskegee University has been engaged in the transformation of its teacher preparation programs. We seek to produce excellent teachers while maintaining our longstanding commitment to providing access to the professions for black students who may be underprepared for college. To meet the new standards for teachers which have been implemented as a part of the education reform movement in this country, we could simply restrict the numbers of students we serve to those who are already prepared to meet the standards. Rather, we seek to achieve the twin goals of quality and opportunity. This has required that we begin to change some rather fundamental operations within our teacher education programs.

Within the context of the new professional standards for teacher preparation and cognizant of the critical need for minority teachers in our nation, President Payton commissioned an assessment of the School in 1983 by a "Blue Ribbon" committee chaired by Dr. Stephen Wright. Upon receipt of the report of the committee, the President and the Board of Trustees took action which essentially said to the university community, "there will be a School of Education on this campus and it will get support if it produces." This leadership support was a necessary prerequisite to achieving the kind of change we are experiencing on our campus. In immediate response to pronouncements of renewed commitment to teacher education at Tuskegee, President Payton provided the Education faculty a new environment for teaching and learning by the designation of a newly renovated building as its "home." The relocation of the faculty to this facility from its several previous locations has provided greater opportunity for the cohesion, discussion and collaboration we needed to accomplish our purposes and has permitted the establishment of new professional laboratories for students. Most importantly, this action provided a visible symbol to the University community that the training of teachers was an important commitment on our campus.

Based primarily on the recommendations of The Assessment Committee and an accreditation review by the Alabama State Department of Education in 1984, the School has adopted a "value-added teacher preparation plan." A brief outline of this plan is attached. As the plan has been implemented, and while maintaining professional standards of quailty, the School has begun to experience considerable success in assisting students to overcome significant barriers. These barriers otherwise, would have prevented them from becoming classroom teachers.

Our value-added approach to teacher preparation embodies a process of implementing program changes on the basis of measured effects of the program on student learning. In other words, we try to justify everything we do in terms of student progress. If something doesn't work or we cannot do it well within our resources, we are committed to changing it or eliminating it. So our basic principle in the transformation of our program was to do only those things we can do well (and to only do well those things we choose to do.)

Our very first action then was to "downsize," that is, we stopped offering training for teachers in a number of areas where we simply cannot commit the resources necessary to do a quality job. We have greatly restricted our scope. This included discontinuance of some fifteen certification programs and all programs beyond the Master's degree. Given the difficulty black colleges have had historically in developing, gaining support, and seeking accreditation for new programs and for advanced degree programs, this action was viewed as near heresy by some of my colleagues. But I believe this action has been fundamental to the progress we have made in enhancement of our programs within limited resources and a highly tenured faculty, and given the fact that we are a small school with little prospect for major growth in the short term. The programs we retained we can afford and we have strong support for these programs in the appropriate liberal arts and science departments.

Because we are committed to doing only those things we can do well, we have not been afraid to admit to ourselves that some things are not going well, that some courses lacked strength, that we have not found effective ways to assist some students in meeting standards. A system of monitoring and internal evaluation is in various stages of development and implementation so that we can assess our strengths and positively address our weaknesses. The system includes the use of a student data management system, service of faculty members as internal evaluators of the program, and several pilot programs of academic reinforcement for students to improve test performance. In response to our early efforts to effectively assess our efforts in terms of student progress, we have engaged in significant course revision and faculty development activities. We assist students in many ways but we enforce standards for progressing in the program.

In summary, the Tuskegee program has benefitted from a renewed commitment to teacher education at the University. In collaboration with our Admissions personnel, we have tried new ways to recruit good students to our programs including on-campus visits and the provision of new scholarships. New resources were allocated and program changes were approved. And the results so far have been most encouraging. Here are but a few of those results:

- passing rates of Tuskegee graduates on the Alabama Initial Teacher Certification Test (AITCT) increased to a 70% passing rate in the last two years

- the School has developed new collaborative relationships with the local public school system and the College of Arts and

Sciences at the University resulting in a collaborative effort to train elementary and middle school teachers in science and mathematics with funding from the National Science Foundation

- new curricula and test preparation activities have been established which promote the sequential progress of students through the teacher preparation program

- new faculty have joined the School in the critical areas of Science Education and Early Childhood Education

Our story of commitment and change at Tuskegee can be repeated by the leaders of teacher education programs in every state in the southeast. I believe that well-conceptualized strategies for program improvement and test performance have been intitiated by most of those historically black institutions with teacher preparation programs. The problem is that the numbers of students in those programs are distressingly low. Black enrollment in historically black institutions has declined at double the rate of other member institutions of the American Association of Colleges of Teacher Education despite the fact that black colleges continue to train the majority of black teachers who work in our public schools each year. In addition, black and minority teacher candidates have lower passing rates on required certification tests than their white counterparts. Thus, the new standards have not yet resulted in having more black students meet higher standards.

Additional strategies must be incorporated in current education reform efforts to increase the numbers of qualified black and minority teachers and to provide incentives to colleges and universities to work toward this goal. I believe the most promising strategies include those designed to improve the way teaching competence is assessed and those designed to provide alternative models for the identification and support of promising young secondary pupils as well as adult mid-careerists in other fields who can be recruited as teacher candidates.

Our present assessment instruments are designed to assess minimum competency for college admission and professional licensing. In effect, schools and colleges are punished for the poor performance of students on certification examinations because the test results are used by many state agencies to approve teacher education programs. This simply encourages schools and colleges to screen out those students who have not met the assessment standard. Surely so-called incompetents should be screened out of any profession, but in the case of black and minority students, our current tests may not provide a fair assessment and may therefore result in premature screening-out to protect a program's status. To avoid this punitive effect, we have committed disproportioned engeries in coaching students to pass narrow test which have little predictive validity for teaching competence.

Instead, schools should be rewarded for making the investment to develop students to meet the standard. Performance standards implemented from this value-added perspective are more conducive to the exploration of alternative preparation models to increase minority access to the teaching profession. An alternative to the minimum competency approach can also promote exploration of preparation program interventions designed to improve the teaching act. Thus I support current efforts to develop a national certification process as having the potential to avoid the bias and punitive effect inherent in previous assessment efforts.

Finally, I believe that our efforts to increase the numbers of black and minority teacher candidates will be successful when we have finally found ways to increase the pool of minority youngsters enrolled in colleges and universities. Many point to the standards imposed in recent reform efforts and the new career options open for black and minority students as major reasons for the shrinking pool of college enrollees. However, during the early period of the reform movement, some educators were able to use the new standards to promote organizational change, to set high expectations for all students, and to encourage the development of particularized strategies to meet the special needs of students. This should have been of most benefit to black and minority students; instead we have seen an overall decline in college attendance rates. Increasingly, good black students are attending proprietary schools and entering the military services.

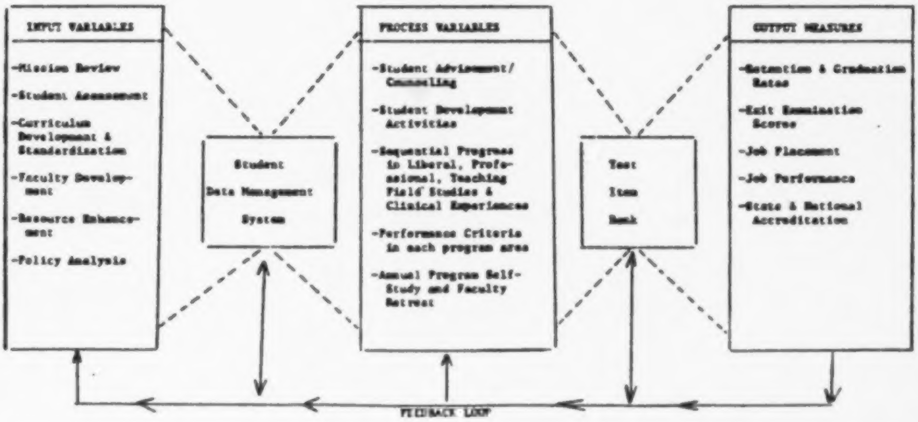
In exploration of this phenomenon, one of my colleagues at Tuskegee has begun to assess the effect of recent and rapid changes in government financial aid policies as contributing even more to decline in college attendance by blacks and other minorities than changes in standards. The increasing reliance on loans for financial aid appears to provide a greater disincentive to college attendance for blacks and other minorities than for white students. Clearly then, loan forgiveness and grant programs are also essential components of strategies designed to increase the number of black and minority college students who may become teacher candidates.

I have tried in a very brief presentation to describe our experience at Tuskegee as a case study of the efforts and commitment of our historically black colleges and universities to meet the twin goals of quality and opportunity in teacher education. But these colleges acting alone within the limits of their resources cannot be expected to correct the projected imbalance in the teaching force wherein a largely minority public school population will be taught largely by white teachers. Additional assessment, identification and support strategies must be incorporated in education reform efforts if we are to address this concern. These strategies can be successful to the extent that we also find ways to support and prepare effective education leaders. As the saga of Tuskegee begins with the vision of our leadership, I close my remarks with the concern that we continue to explore and develop programs to develop leadership skills and competencies necessary to conceptualize and implement programs for change in our schools.

# TUSKEGEE UNIVERSITY'S VALUE-ADDED APPROACH TO QUALITATIVE IMPROVEMENT IN TEACHER PREPARATION

The "Value-Added Teacher Preparation Plan" as adopted by the School of Education at Tuskegee University is a multistage process of assessing the effects of education on students' learning and implementing changes as needed in the program on a regular basis. Under this plan, students' gains in competencies and skills are assumed to indicate the value added by structured educational activities in the School. The plan relies on effective monitoring and review of students' performance and teacher styles, student data management, academic counseling and reinforcement, curricular changes, and follow-up studies.

A Value-Added Approach to Qualitative Improvement in Teacher Preparation


INPUT VARIABLES
-Mission Review
-Student Assessment
-Curriculum Development & Standardization
-Faculty Development
-Resource Enhancement
-Policy Analysis
Student Data Management System
PROCESS VARIABLES
-Student Advisement/Counseling
-Student Development Activities
-Sequential Progress in Liberal, Professional, Teaching Field Studies & Clinical Experiences
-Performance Criteria in each program area
-Annual Program Self-Study and Faculty Retreat
Test Item Bank
OUTPUT MEASURES
-Retention & Graduation Rates
-Exit Examination Scores
-Job Placement
-Job Performance
-State & National Accreditation
FEEDBACK LOOP

Representative **Scheuer**. Thank you very much, Ms. Hatton. Ms. Hernandez.

Representative **Fish**. If I could just interrupt for a minute, I think, Ms. Hernandez, it might be helpful—I assume you are going to be talking about bilingual education.

Ms. **Hernandez**. Not much.

Representative **Fish**. Oh, you are not?

Ms. **Hernandez**. I will if you would like me to.

Representative **Fish**. Well, if you do get into it, would you define it for us?

Ms. **Hernandez**. Surely.

Representative **Scheuer**. I might say that I bear a heavy burden in this whole area of bilingual education. I was the House sponsor of the original Bilingual Education Act in 1965, cosponsored with me by that wonderful senator from Texas, Senator Ralph Yarborough. And we had great, great hopes for bilingual education.

Unfortunately, much of the dreams that we had for it were distorted and perverted by the way it was administered. We hope to hear something on that subject from you. Please proceed, Ms. Hernandez.

## STATEMENT OF SONIA HERNANDEZ, INSTRUCTIONAL SUPPORT TEACHER, EMMA FREY ELEMENTARY SCHOOL, SAN ANTONIO, TX

Ms. **Hernandez**. I did want to thank you for the opportunity to be here. As I listened to the first panel and my colleagues here on the second panel, something became very evident to me, Mr. Chairman. That is that we obviously have two different Americas, two Americas; one where there is a great deal of success for students in public education, and the one that I live in, where that success is not quite so evident.

Representative **Scheuer**. That success is dramatically absent for an appallingly large number of students.

Ms. **Hernandez**. Unfortunately, I would have to agree with you.

Just in terms of giving you a little bit of background, I live and work in a community that suffers from an 88 percent illiteracy rate among its adult population. We have a dropout rate among Hispanics of 55 percent, which occurs at the sixth grade level. So if you are looking at high school, you are too late for us.

We have the lowest per capita income in our county and we have the highest percentage of reported child abuse cases in the State of Texas.

Within this very complicated and depressing milieu of society, we try to forge a future for the 750 students at the Emma Frey Elementary School. The job of the educators in our community is at best difficult and is, in addition, unrewarding as we try to make ends meet ourselves on our limited salaries which are among the lowest in the State.

We have been talking about student performance and student achievement. And let me give you a glimpse of what is happening in the Edgewood School District. Student achievement is measured by nationally standardized tests. To give you a glimpse of the academic failures of the public school system to the mainly Hispanic community of Emma Frey Elementary—by the way, it is 98 percent Hispanic—the top fifth grade students in our school scored a mean average of 25 percentile, national percentile, the bottom quartile, on the Stanford Achievement Test given last month.

The lowest achievers scored a mean average of less than 7 percent, again national percentile, showing that 97 percent of all students in the Nation who took the test scored better than our children. Basically they cannot read, and if they can read, they do not comprehend what they are reading.

Is there any question as to why we are going to lose more than half of those students which are in my school right now? They will become dropout statistics within a year.

The question then must be asked, what can be done to remedy this situation, and that is a tough, tough question to answer, to stop our loss of human capital? The solutions require a radical rethinking of public education among policymakers and a redirecting of education dollars toward reforming the institution that seems to be, in many cases, destroying our children's future.

There are a couple of things that I would like to highlight. One, the hope, gentlemen, was that bilingual education would be one of those things that would help our students. The implementation has been so uneven and the expenditures have been so uneven across the State, that it is very difficult to be able to gauge bilingual education per se as having helped or hindered curbing the dropout rate.

My experience in our particular school district, bilingual education is mandated K through 12 because we would like to see our children literate in both English and Spanish. The reality is that we have had to give up much of the instruction in Spanish past the third grade, because our children are simply not achieving in English, and if they don't have that, they have nothing.

The second thing I would like to point to then are the reforms that have been recommended by the Carnegie Forum on Education in the Economy's Report, A Nation Prepared: Teachers for the 21st Century. It seems to me that many of the questions that have been raised about where do we direct moneys, as a campus administrator and as a teacher—I do teach on a daily basis, gentlemen—my kids are very upset that I am in Washington again—there are two constituencies where I would direct Federal dollars. One is direct instruction of children, and anything that we can do to help teachers. The teaching act occurs between those two groups. Anything that can be done to strengthen that I think has to be geared toward those two constituencies.

But in the area of improving the quality of teachers who serve in America's schools, there are several things that I feel need to be done in order to make this happen. And you have heard this from all of us, I think. More minority teachers must be recruited, which may otherwise go into more lucrative professions.

If there were some way of reproducing what Barbara Hatton is doing at Tuskegee at many of the colleges and universities throughout our Nation, then we ought to look at doing that. There are too many colleges of education that are sending out teachers into the field, into the reality of public education who are unprepared for it, who cannot handle a classroom, who do not know how to deal with minority children or children who speak a different language.

Some of those, if they do not look to being reform, ought to be shut down. They ought not to get any more money. They are a hazard to our children.

Representative SCHEUER. You are talking about the teachers' colleges.

Ms. HERNANDEZ. Yes, I am. Or colleges of education. If you put together a group of principals, I dare say that we could tell you in our particular areas which are the schools that are doing a lousy job, because we see the result, the end product of teachers who are not prepared, who think they are, who think that they have been properly prepared, but who in reality are not. And they soon come to that conclusion. We lose them.

Another key issue is the setting of higher standards for what a teacher should know and should be able to do in the classroom. At the national level, the National Board for Professional Teaching Standards is working vigorously at that particular notion that we ought to be able to set higher standards for teachers and most teachers in the field are willing to look toward those standards and to meet that challenge. They want to be better. We want to be better.

And certainly at the national level, there needs to be that kind of leadership.

For those teachers who are recognized for their excellence through the National Board, hopefully, there will be a national certification akin to a guarantee of professional standards. And as teachers progress through their career, there ought to be differentiated roles which should be available to the teacher so that there will be master teachers, apprentice teachers, teacher interns, and teacher aids whose salaries would be commensurate with their responsibilities and with their duties.

Currently, the only way to better your salary if you are a teacher is to become an administrator, and unfortunately we need our best people not at the administrative level, although I would like to think that that is crucially important, but in the classroom where things are really happening with students.

These steps, I think, would be a help in bringing teaching into the 21st century.

I am going to be very radical. I am going to suggest to you that one other way, one critical way of revamping public education is going to be through the dismantling of the large central administration bureaucracy where so much money is being sucked into and lost.

Representative SCHEUER. Are you talking about 110 Livingstone Street? You should, if you aren't.

Ms. HERNANDEZ. Uh-huh. As a matter of fact. It seems to me that if you look particularly at my school campus, if there were a restructuring and a dismantling of some of the areas and some of the departments within our school district, as a campus administrator, I could have an additional $1 million for my campus with which I could pay teachers additional salaries, with which I could hire additional teachers and teacher interns to make a real difference in the classroom where things ought to be happening.

It is nice to see all these lovely offices going up for the central administration and for the curriculum department and for the athletic directors, et cetera, but that does nothing to help the children read at Emma Frey.

The role of Federal Government, a difficult one. Again, as a practitioner in the field, lacking the eloquence of many of my peers, I would simply suggest to you that noninterference in the rights of the State to provide public education is not enough. In and of itself that is not enough.

The national economy is not simply a function of individual States. Jobs in the American work force are not merely the concerns of the States, and obviously the significant importance to the welfare and the defense of this entire country is not a function of the State. Neither should education be simply a function of the State.

It seems to me that there has to be a reorganizing of the Department of Education, relooking at entitlement programs, and gear those programs again toward teachers and children.

Representative SCHEUER. Toward performance?

Ms. HERNANDEZ. Definitely toward performance. Unfortunately, the State of Texas has taken a tack that if you are not performing, they are going to cut your money. Does that make sense? If the schools are not performing well, those are the schools that ought to be targeted with additional assistance and new management, if need be.

So there is a good deal that needs to be done. And when I spoke of defense and political stability, this is long range and this is not meant to be a scare tactic, but if you lived in southwest Texas, if you lived close to the borders of Mexico and Central America, you would begin to be fearful for those children who lack an education, who are growing up to be illiterate adults, and who would certainly be at the mercy of all kinds of different philosophies which would not be to the benefit of the American society.

Those are the things that I worry about and those are the things that I bring to you as a practitioner.

Representative SCHEUER. Thank you very much, Ms. Hernandez. This was an outstandingly fine panel. Congressman Hamilton Fish, I yield to you.

Representative FISH. Thank you, Mr. Chairman, very much for yielding to me.

Let me start with you, Ms. Hernandez, because you have given us a shocking picture of the primary school where you teach. Why is that school so terrible?

Ms. HERNANDEZ. Why is it so terrible? Unfortunately, it is probably more than norm than the exception. We are in a property-poor school district. It does not have very much money. Only recently Texas has gone through a reform that has brought a few additional dollars, and that were cut back this year.

The emphasis has always been at the high school level, has not been sufficiently in our district at the elementary level. So as the high school teachers started blaming the elementary teachers, the elementary teachers got the magnifying glass approach placed on them now.

Representative FISH. Is that problem compounded by the fact that so many of these children go home to families with, as you indicated, parents who are illiterate?

Ms. HERNANDEZ. That is the problem. But let me say this, Congressman Fish. Last year I was in a different school, right down the street from Emma Frey. And we put a great deal of emphasis on reading at the first and second grade levels. We found that many of our parents did not know how to read. Because they felt sufficiently comfortable with me and with our school and without teachers, they requested a literacy program which we started for them on a volunteer basis. The school district refused to give us any money because they said well, we have tried that before and it didn't work.

Teachers volunteered. The parents came in. At the end of 9 weeks, we had 50 parents coming in who could at least begin to help listen to their children read.

Representative FISH. Is it fair to say that this problem that your are talking about in your particular school is due to the local school board and the lack of attention by the State, because it is just appalling; you have got 98 percent Hispanics. I mean your school should be a piece of cake.

I visited a primary school in Los Angeles where there were 45 different languages spoken and the superintendent had to really be talented because he conducted the PTA in four languages, and one of them was Vietnamese.

That, I could see, was a problem, compounded by the fact that nobody stayed in the school more than a couple of years.

But you have got largely one group of people, Hispanics, and yet you tell us this picture of lack of learning of either Spanish or English, and of this foreseeable dropout.

Ms. HERNANDEZ. I think there are a lot of things that have to be done. If you are looking for root causes, I think there are many. I think, as Ms. Futrell pointed out, the makeup of the family is very, very different. It is a family that is headed mainly by women who are either on welfare or menial service jobs.

We find that many parents are not home when the children come home. Forget latchkey. The kids are out in the street. What we have tried to do is keep the school open later so that the children can come in, if not for studying, at least for recreation and supervision. But it is a massive, massive problem.

I think that we need to be able to redirect moneys, to have more teachers available. We need more minority teachers. We have very few in our particular school. We have very few teachers who speak Spanish, and that is certainly something that is critical when parents come in speaking Spanish to you.

Representative FISH. Mr. Murphy, you talked about the business community's role in your high school programs. I didn't hear you talk about their financial obligation.

Is there a financial obligation as you see it?

Mr. MURPHY. We are not seeking financial support. We are a tax-supported institution and should stay that way.

Representative FISH. In terms of improving employment skills, though, wouldn't they have a stake in that?

Mr. MURPHY. We still feel that that is the responsibility of a school budget. We shouldn't be tapping into business to get them to pay more than the share that they are already paying with their taxes. They pay substantial taxes now.

I just don't think it is fair to go back and say to business, now you have to pay to change public education. We are looking for their expertise and their power. We would like them to place education as a top priority and make sure that the politicians in our community also place education as a top priority because of the pressure coming from this power group.

Representative FISH. I wasn't thinking so much education that they have to pay for, but employment skills which you could consider as something that you are adding to your curriculum.

Mr. MURPHY. Oh, no. I don't think we are adding anything to the curriculum. We are simply doing the job we should be doing, and a youngster should exit school with those skills. We are simply asking them to assist us in the process of assessing whether or not they actually have them.

Representative FISH. You were introduced, with reference to your background in North Carolina and the magnet school system. I wonder if you would like to comment on that.

Mr. MURPHY. I did start a magnet school program in North Carolina, but I have initiated, I believe one of the Nation's largest here in Prince George's County which is just down the road. We found that program to be highly successful. We have dealt with a desegregation issue that was lingering in the courts for 15 years. We brought resolution to the problem. We have been able to meet the court guidelines to racially balance our schools and to live within the guidelines that the judge has set.

Not only that, the magnet school is allowing us to introduce change and reform in our school system, and build up a level of confidence among community members, and we are getting far greater financial support because of that level of confidence than we ever had before.

So we have been able to do many things based on the new programs and experimental programs that we placed in our magnet schools.

Representative FISH. I take it both in North Carolina and today that you have a large minority population.

Mr. MURPHY. Yes; we are a 62 percent black school system in Prince George's County.

Representative FISH. Would you recommend nationally, from our experience in two States, that magnet school system for areas of this type of mix?

Mr. MURPHY. Absolutely. Let me give you an example. In Prince George's County when I arrived in 1984, I inherited a plan that was developed by a group of "desegregation experts" and it was a paired school plan. That plan was going to cost Prince George's County $60 million to implement. The $60 million would buy yellow buses, tires for the yellow buses, and pay drivers' salaries. Not a penny for education.

Our position was, we will put our money into education, not transportation, and we put that money into quality school programs. People who were threatening to lay their bodies in front of buses and not be bussed now stand in line for 3 days to get on the same bus and go to that school because they have an option, they have a choice.

Representative FISH. Thank you very much. Ms. Futrell, we have heard just in the last few minutes about the problems of penalizing a poor school. You remember the first panel that we had of the Governor and the speaker were talking about rewarding improving schools.

I wonder what is your association's position on programs such as the A+ Program in Indiana that rewards schools for improving scores on standardized tests?

Ms. FUTRELL. I am not very familiar with the program in Indiana. I am aware that our affiliate has worked very strongly for reform. I probably am a little more familiar with that kind of concept as it evolved out of the State of Florida. In the State of Florida, the legislature put forth legislation calling for what we call merit schools. The education unions in the State of Florida indicated that they had a real problem with that if there was a quota.

But the funding should be provided so that if all the schools could benefit to show an improvement or could receive an incentive, then we would be supportive. Where we would have a problem would be if you said only 10 or 15 percent.

Let me just say to you, Congressman, that I don't think that that is the real way to fund schools in America. I think that what we have to face first of all is that we have had a roller coaster in this country regarding providing support for the schools and the country. We need to look at the funding formulas so that there is more equity.

We have some school districts which are pitfully poor and yet they are expected to keep up with a Fairfax County or Montgomery County and many of the more affluent school districts. I think that we have to level up school districts so that many of the poor ones are on a better level to compete with the more affluent school districts.

We also are very concerned about the fact that as we talk about competition, we are doing away with the concept of cooperation. How do we, within the school districts, within the schools, within the classrooms, cooperate to make sure that we have a much better education system for each and every child in this country?

It is very difficult for teachers who are working in very poor districts, especially inner city school districts, to be able to compete with a Montgomery County. What we will end up with is the people who are already doing a good job will get better and the others will be left at the bottom of the pile.

So how do we have a more equitable system of funding so that all schools have adequate funding? How do we make sure that we work cooperatively to improve the quality of education for everyone and try to have an overall improved economy in this country?

The only place I have ever seen a merit school work was in China. In talking to the teachers in China and the other educators, this is what they have said to us. Yes, we have merit schools. What happens is that the affluent parents—and there are some affluent people in China—their kids get to go to those schools. People in the Government, their children get to go to those schools. The people who are in the military, their children get to go to those schools. And we try to get the kinds in who are, quote-unquote, meritorious because of academics, but we know that there is inherent throughout the system people whose children get in because of who their families are and not because of their ability and not necessarily because they are doing that much better than anybody else.

This is what the educators told us, and they have had a reputation for having meritorious schools or giving certain schools more money than others because of performance than any other country that I know of.

So I think that we need to look very carefully at that concept if that is something that we consider. The main concern should be how to do we level up the funding so we have a more equitale way of providing funding for the schools.

Representative FISH. I guess it is fair to say that while everybody is for improving the quality of education, you simply don't want to end up with a dual system of public education.

Ms. FUTRELL. That is true, sir.

Representative FISH. I noticed in your testimony the word "equity" came up, and I was wondering what you meant. But I think you have defined it now.

I think this leads us, this whole question of funding, into my second question which is reading from your prepared statement. You say, "But the Federal Government can help promote quality education by ensuring that each child who enters the classroom has a decent chance of local wealth, can provide quality educational opportunity."

I think we are getting here to the heart of school financing. What you cite in the next paragraph refers to the Federal Elementary and Secondary Education Act. But if you are familiar with Westchester County, NY, which I represent part of, you have a range of between $12,000 and $350,000 behind pupils in different parts of the county, and obviously that reflects on the education.

How do we ensure that each child who enters a classroom has a decent chance of success, and each school district, regardless of its local wealth, can provide quality educational opportunity?

Ms. FUTRELL. I think one of the ways we can do what I have described is to look at prenatal care, look at postnatal care, early childhood education. The first 5 years are really the most important years of a child's life. What happens to them during those 5 years, those formative years, will to a large degree determine what will happen to them when they move through the school system.

If we don't make sure that we have good sound programs to help the children at an early age, to help their families, and to help them with their early childhood education programs, many of them will be lost.

I would like to commend the two of you for all the work you have done regarding the Elementary and Secondary Education Act, Head Start, and all of that. I wasn't teaching then. I was just coming out of college, and so I didn't know about all these things that you were doing, but I would like to commend you and say that one of the things we could do is to fully fund, for instance, Head Start so that every child who needs to be in Head Start can be in it.

Right now, we are servicing one-third of the children who have been identified as needing services. So that is one place that you could really help. Encourage more day care programs to be set up, and not just babysitting kinds of day care programs, but programs which are developmental in nature and which will really help young people get a better footing regarding education.

When I talk to teachers, one of the things that they tell me is that more and more children are coming into school who are just unprepared. They are just totally unprepared for school. That might be because both parents are working outside of the home, or if there is only one parent, and that one parent is working.

But I have teachers telling me that kids are coming in who don't know how to tie their shoes, don't know how to dress themselves, don't know their alphabets, don't know the colors, don't know the numbers. Before, we didn't have a lot of that. Parents were there and they were available. I am not blaming the parents because they have to work. But we need more programs at the early level to help young people, so that when they come into schools they have a much stronger foundation.

So the Head Start Program, day care programs. I would look at the elementary schools. And I am a secondary school teacher, so it might sound a little strange that I am advocating for elementary. I would look at the elementary schools, K through 3, no class higher than 15; 4 through 6, no class higher than 18.

I agree with all the proposals about let's revamp the program, let's look at how we can do a better job of teaching, better train teachers, but I think you also have to look at issues like class size in addition to homework and those kinds of things.

Representative FISH. Let me stress the Head Start Program because I was the one who brought that up, and I think you might recall that I referred to it as a misnomer. It should be called Equal Start.

The chairman was one of the people who initiated this program, but he also said that he meant this as just a program to throw out there, to get Federal seed money to get it started, but it wasn't meant to be maintained as a Federal program but, rather, just to be something that would be continued in the local school district. Apparently it isn't.

Do you have a comment on why a program like Head Start isn't a State or local responsibility?

Ms. FUTRELL. I would suggest that perhaps the reason is that many school districts simply do not have the money. Many school districts, especially rural outlying areas, inner-city areas, simply do not have the money. And even though you give them funds supposedly for starting up the program, school districts become very reliant on those funds, and if you cut back, they cut back.

Then eventually if you change the formula, they might end up not being able to keep the program at all. Part of the problem is we have not done a good job in educating the public about the importance of these kinds of programs.

We need to do a better job of going to the community, going to the public, and saying this program is working. We need to maintain it, we need to expand it, and we need your help to do that.

The Federal Government can provide some help, but the help has to come from the State and from the local levels of our government. I also believe strongly that there is a very positive and a very strong role for the Federal Government to play in the whole area called equity. But more and more of the responsibility has to be picked up by the States, and the localities.

I think if they put in more money, we could expand the program and provide services to more children.

Representative **Fish**. Ms. Futrell, the chairman has been very lenient with his time here, but I really cannot resist asking you one more question because of your capacity of representing, what did you say, 1,800,000 teachers here today?

Ms. **Futrell**. Yes.

Representative **Fish**. What has crossed my mind has been that it seems to me more and more when we get a social problem today, we say now this is something that should be added to the school curriculum.

Today we are talking about employment opportunities, job skills, and so forth. But in the past was let's teach drug abuse and substance abuse in school. Then it became promisuity; let's tackle that with sex education in school. And now we are talking about AIDS in the curriculum. Tomorrow it will be something else.

How do your teachers react to this responsibility that is getting broader and broader and further away from the reading, writing, and arithmetic?

Ms. **Futrell**. Most teachers would respond, I believe, by saying that we recognize that schools are taking on more and more of the social responsibilities of our society. When we do that, something has to give, because when you add more, it encroaches on the time that we have to teach.

Right now, teachers are spending 60 percent of their time teaching and 40 percent on other kinds of things. But we also recognize that if we do not address these issues, in most instances they will not be addressed.

So the question I think most teachers would ask is, do I turn my back on these children? Do I, as a teacher, say I am here to teach business education? I am not here to talk about AIDS. Do I turn my back on the fact that children come to my class hungry. Do I turn my back on the fact that I know I have kids in my classroom who are using drugs, or do I try to help them? And do I try to make sure that there are programs and services available?

Most teachers, I think, would say to you that we are here to teach and children are here to learn, and we have a curriculum and we should follow that. But we cannot afford to turn our backs on these young people. The schools have a responsibility to try to help.

I think what we need to do is to look for ways to relieve the schools of some of those pressures and some of those responsibilities. We need to look for ways to provide more coordinated community service, like how can we work more closely with the health services division so that instead of the schools having to assume all those responsibilities, we have programs working with the health services division which will help us address those kinds of issues.

Can we do that? I think we can. Can we coordinate services so that we can provide more assistance regarding employment and regarding some of these other issues, but not take away precious classroom time? I think we can.

People in the community know where the school is located, so therefore, they tend to say let's put it in the school; it is a centrally located place in our community and it can provide services, as opposed to saying let's coordinate services and the different agencies will perform their responsibilities, and the school, therefore, will be able to provide more of their distinct kinds of responsibilities and not focus so much on these other issues.

But primarily you cannot turn your back. You just simply cannot do that. We are dealing with children, and they are human beings.

Representative **Fish**. Thank you very much. Thank you, Mr. Chairman.

Representative **Scheuer**. Ms. Futrell, just following up on what you are saying, a great part of the problem with these social problems, behavioral problems and attitude problems is a lack of proper guidance and stimulation at home, the lack of a proper home environment, parents who are really not tuned in to the school system.

It seems to me that we have a great asset here, that at least most of the time, most of the kids are going to end up at school. They surface. We can identify them. They are there, and we can deal with them.

When you talk about social services and coordinating, it brings up all kinds of horror stories. It seems to me we have got to build on the one great asset that we have, and that is that most of the time most of the kids come to the school for most of the day.

We have to deal with these kids' noneducation problems because they are so closely linked to their education problems. And I think the school is the best thing we have got going for us. If the churches were able to reach out to these kids, I would say great; let's do it through the churches.

Certainly the black churches have a greater hold on their people in this respect than white churches and synagogues. Maybe that is an asset that we should exploit more intensively.

Parents—yes, we would like to empower parents to help their kids, mostly, but not exclusively, minority kids. It seems to me that our schools are our last best chance. I really don't see how we can let the focus shift away from schools. Schools are our last best hope.

Ms. **Futrell**. I don't disagree with you at all. That is why I say that teachers will respond. We cannot turn our backs.

But there are some successful programs which have used the collaboration model. Citizens Schools Program has used it and used it very successfully, understanding that the schools can do only so much. While the schools will certainly try to be responsive and certainly try to help these young people, if we could have more support, we could do a better job and we could reach more.

They probably have been more successful in coordinating these activities than anyone else. A program which we implemented last year—and again we recognize that we are adding another burden to the school—but we, for example, last year decided that we would work with the U.S. Health Department, the Federal Government, and with the Centers for Disease Control and with Merrill-Dow Pharmaceuticals to set up a health network for the schools.

Representative SCHEUER. In the schools.

Ms. FUTRELL. In the schools. And again, trying to reach the children because, let's face it, Mr. Chairman, we have many children who come to us who never see a doctor, never a doctor from after they are born until they become adults and maybe can afford it. They never go to a doctor.

So what we have said is, let's try to provide through the health network some services, some programs to help them.

Representative SCHEUER. At the schools.

Ms. FUTRELL. At the school level. Help teachers have a better understanding of many of the health problems that children bring. What can we do to help young people develop better attitudes about how to take care of themselves?

We have advocated for drug prevention programs, drug intervention programs in the schools. We have advocated for programs dealing with sex education.

Representative SCHEUER. How about family planning services?

Ms. FUTRELL. Family planning services, we have advocated for those. And we agree with you; the schools are the last best hope that we have. But should it be that way and should we allow it to continue to expand? Should we allow the schools to continue to have to take on more and more?

Why can't we ask and why can't we cause the other segments of our society to be more responsible, not only in addressing these issues, but in helping us deal with some of the very issues you raised?

Representative SCHEUER. In an ideal world, the schools wouldn't be burdened with these problems. And in middle-class communities they aren't, and there is no particular reason why they should be.

Ms. FUTRELL. I think that that is sort of a myth. In many of the middle-class communities they are. Many of the middle-class communities don't want to admit they have a drug problem, but they do. They don't want to admit they have a teenage pregnancy problem, but they do. They don't want to admit that they have many children who are suffering from malnutrition, not because they don't have access to food, but because they are not eating properly.

So the problems we are facing are not just inner city and are not just for poor people. They are problems which permeate all segments of our society and influence our ability to provide quality education.

I know what it is like to have a kid sitting in my class who is high from drugs and who is not concentrating on what I am doing, yet I have to teach that child.

Representative SCHEUER. I totally agree with you. I see no alternative to the schools accepting that responsibility, particularly in low income, deprived communities because there are not any apparent alternatives.

I have often thought that instead of teaching prevention of drug abuse and alcohol abuse and sex abuse and so forth, we ought to be teaching self-esteem. Kids must understand that they are valuable people and society respects and honors them and has a great role for them, but they must acquire the right attitudes and behavioral skills and job skills if they are going to have a great life.

Ms. **Futrell**. We do try to teach that, but when I talk to children—and I used to work with at-risk children, and I tried to teach self-confidence—and tell them to stay in school, get a good education, tell them you can make it, you can do it, you have the ability—many children would look at me and they would say, "Mrs. Futrell, that's correct, and we agree, and we will try. But you don't know what it's like to be out here in our community trying to survive."

Here I have 12-, 13-, 14-year-olds who are much wiser about what it is like to be out there than they perceive me being. And we try to do that, but the competition in the community in which they live is very, very strong. We try to make those children strong so they can overcome those impediments. But it is very difficult. The peer pressure, the community pressure is very difficult.

But I agree with you; we have to teach self-esteem, self-confidence, in addition to instilling in them the need to get a good education.

Representative **Scheuer**. I totally agree. I would like to ask all of you a question about attitude and behavior. We have had some testimony about the problems of attitude and behavior, particularly but not exclusively in the minority community. We have had testimony from black sociologists that there is a problem of it not being chic, it not being macho to succeed in education, and that the way you thumb your nose at a hostile world is to fail at education.

It is OK to achieve in sports, but not in education. You are sort of a wimp, a nerd, if you achieve in education. How do we cope with that problem? I throw that open to anybody.

Governor **Riley**. Mr. Chairman, that is of course an issue we had in South Carolina. Our population is 31 percent black and we have had very serious problems in the textile industry and agriculture and so forth. But the economic development thing certainly is a positive movement.

But we have had the same kind of historical problems that have been relayed to you here. I would point out that we have had an attitudinal change in the State. I would associate it with several things. One is fairness. I think another is early childhood development, and those things have been said here before.

What we did in South Carolina, you talk about the Head Start Program which I have always strongly supported, and chapter I, with our population, with a rather high illiteracy level of adults, we emphasized supporting the same kinds of problems. We have a 4-year-old program in the State. We identify those areas where young children going into the first grade have a high level of not doing well on the readiness test. It certainly is a clear indication that they have those problems with home and family and whatever.

Representative **Scheuer**. I am talking about problems of attitude and behavior.

Governor **Riley**. All right, sir. I am getting to that. These children, when they go to the 4-year-old class, mandatory kindergarten programs, they go into that first grade with proper health programs, infant mortality, teenage pregnancy later on, but those early childhood development programs, if they have a fair start in the first grade, going into the high competitive public school system, I think that does more with this attitudinal problem later on than anything else.

What causes an awful lot of it, I think, is being 2 or 3 years behind and trying to push the rest of their lives to catch up.

We have had the highest attendance record in the country at the same time we put on high standards. But we worked with poor people, we worked with minority groups across the board, and I think it is working.

Representative SCHEUER. Can I ask the four of you to respond to that question briefly, because we are over our time now and I have one or two other questions afterward.

Ms. FUTRELL. I will try to be very brief. I think oftentimes a negative attitude is a defense mechanism to cover up for despair and hopelessness, when children perceive that there is nothing out there for them. And what we have to try to do at a very, very early age is to instill in them the fact that if you get an education, you have a much better chance of success; you can learn; you are a very worthy individual.

Some of that we do through the home, but a lot of it we do through the school and we do through being very positive role models.

We also have to convince young people that learning is not negative, that when we were growing up, we perceived it as very positive. But a lot of children now, as you indicated so aptly, are convinced that if you are smart and you show it, then you are, as you said, a nerd.

So how do we convince them that it is good to learn? I think you do that by the way you teach them, the way you treat them, the role model you are for them, and constantly reassuring them that there is a brighter side.

Representative SCHEUER. Mr. Murphy.

Mr. MURPHY. I think, unfortunately, we have a self-fulfilling prophecy: blacks are not going to learn in America's large city schools. The goal we have in Prince George's County is to attempt to reverse that. I think our goal is a very significant one.

When we take a 62-percent black school system, have that school system competing with the very best suburban school systems in America, I think we are sending a very strong message to black children about themselves.

Representative SCHEUER. You certainly are. Ms. Hatton.

Ms. HATTON. I think the best way to self-esteem, in my experience, is through performance. When students see performance, when they experience performance themselves, their self-esteem rises and they will make a greater effort.

The way you do that is to hold out high expectations for these kids, grab hold of them and hold them as tight as you can, make sure they meet them, and their self-esteem will rise.

Representative SCHEUER. Ms. Hernandez.

Ms. HERNANDEZ. I would have to agree with that. But let me just add that among the Hispanic community, visibly the attitude and the behaviors are not bad. They are very good, and that is a problem. I wish they would act out to let us know where we are failing and who is failing them, so that we could attack the problem before it becomes a dropout statistic.

The reality is that the behavior is excellent. The attitude appears, on the surface, to be good. Those that succeed perform much better. The success feeds that self-esteem that is so terribly, terribly important. If I could see more behavior problems, maybe I could address their needs much more quickly.

Representative SCHEUER. I think you have it good in the Hispanic community; at least behavioral problems don't seem to be quite as critical as they may be among black school kids.

Let me ask Governor Riley and Mr. Murphy, how have you achieved the success that you apparently have achieved in mobilizing the business community and the wider community to support your programs, including the larger tax it is going to take to support programs for education excellence? If you can both be very, very brief.

Governor RILEY. Very brief indeed. I think this business of partnership, which is a popular word today, is very important and very critical. And I mean by that a real partnership. We involved business leaders from the very beginning, right side by side with teachers and principals and superintendents, to plan what we were going to do. We worked together and we developed that working relationship.

In the results orientation, many of the parts of our program will see a business flavor, and you also see a teacher's flavor and a principal's and superintendent's flavor. That is the critical part of it in how you do move, I think, that people legitimately be involved from the ground floor up who have vested interests.

One point. Let me close with the growth of the student population in this country, Mr. Chairman. I think this is important to look at the long-run trends. The growth of the student population happens to be in those areas that the other speakers here have identified as the risk areas where we have done the poorest job in educating children.

We are also having a reducing percentage of parents out there to support the school system. You are going to have less people supporting; you are going to have more children that heretofore we haven't done the job. I think it is a tremendous challenge for us all and business is going to have to be involved.

Representative SCHEUER. Mr. Murphy.

Mr. MURPHY. Our business leaders aren't being paternalistic and taking schools on as their stepchildren. They realize that their profit is going to be directly related to the quality of the schools they have. I think as more business leaders become aware of this, they are going to be more actively involved in supporting public education.

Representative SCHEUER. Virtually all of you are members of the Professional Teaching Standards Organization, a national organization.

Would you favor a one-time award by Congress to this organization of $10, $20, or $25 million to help it get on with its work. Would this be useful?

Ms. FUTRELL. Mr. Chairman, I have had a chance to meet with Governor Hunt who is chairing the Standards Board, and to talk about this issue. We did discuss it at the last Standard Board meeting, and if I recall correctly—and the other members of the Board can correct me—there was not any dissent.

So we all are supportive of Congress giving some money to the Standards Board. But I must be very honest and say that I indicated to the Board that there would be some conditions that would attach to any kind of Federal contribution.

We had originally been told that the money would be raised through foundations, through corporations. Then we were told that part of the money should come from the Federal Government, part from the foundations, and we don't have a problem with that.

But we would have a very real problem, we meaning the National Education Association, if in order to get that money we had to cut existing programs. We have fought too hard and too long to get the programs we have. The programs have experienced a 30-percent reduction since 1980. We are not servicing all the children we should be servicing, so we would have a very, very difficult time saying we should cut existing programs to get money for that Board.

Representative SCHEUER. No. Congress would surely insist on a maintenance of effort.

Ms. FUTRELL. We certainly hope so. Second, we would be concerned if amendments were attached which we felt were punitive to teachers.

Third, we would be very concerned regarding perversion of the Board. In other words, we would like to make sure that the Board indeed is autonomous and that it is not held hostage by certain conditions. We would say that whether it is government funding or private funding.

I did share those concerns with the Board and indicate that we will work with the Carnegie people to get the funding, but those are the conditions that we would examine very carefully.

Representative SCHEUER. Ms. Hatton or Ms. Hernandez.

Ms. HATTON. I can tell you that the development of the assessment process is essential to improving the quality and numbers of black teachers. The assessment instruments we have now have put us in the position of teaching students to pass bad tests. That is not going to improve the teaching act. That is not going to help us do a better job in our schools.

We badly need this, and therefore, I do support and I think most of my colleagues do support the government support that is proposed.

Ms. HERNANDEZ. I have basically the same notion.

Representative SCHEUER. I don't quite understand why it is that your school districts have such a problem in recruiting black teachers. If you look at our society today, you couldn't fairly well say that young black women have superior alternative opportunities in life, career opportunities, than teaching—superior to young white women.

If teaching is attractive to white women, why shouldn't it be attractive to black women if they don't have superior alternatives?

Ms. HATTON. Mr. Chairman, you have a decline in the numbers entering, so that decline is simply worse for black teachers.

Representative SCHEUER. Why should it be?

Ms. HATTON. First, you have to remember that there is a general disaffection with teaching. That disaffection is even greater for black teachers because, second, the black student sees the worst teaching conditions, most likely, in his experience as a student, and that is where most of us get our models and our concerns for our occupational role models and that kind of thing. The black student sees a very, very bad teaching condition. It is not something that you would grow up desiring to do, what they see their teachers doing.

Second of all, if I may, sir, there is a situation here where you are dealing with the vestiges of segregation. Teaching is something you could do because they, meaning the white society, allowed you to do that. And now you are able to choose something else. Why not do that? Why do something that you were restricted from doing historically.

Representative SCHEUER. That is exactly, precisely the problem of our difficulty in getting enough white teachers.

Women also can go to medical school, they can go to law school, they can get an MBA from a business school. They have all kinds of alternative careers. That is why we are having problems recruiting the best and the brightest from the white community as well as the black community.

So I would have to ask you, what is the Federal role in enabling our society to attract the best and the brightest, not only black teachers—we want to expand our inventory of talented and competent black teachers—but white teachers, too.

Ms. FUTRELL. May I comment? We are not just talking about black teachers. We are talking about minority teachers. We are not just talking about women. We need men desperately in the teaching profession.

Representative SCHEUER. Sure. What do we do? What is the congressional role in stimulating recruitment of the best and the brightest of the young people in our society to go into the teaching profession?

Ms. HATTON. You have to promote college attendance. You have got to increase the number of students who are prepared, well prepared, and who are able to attend and complete college. That is the first primary role.

In order to do that, you have to make the policies conducive for retention in college attendance. And I think until we learn how to do that, we have the same size pool of black students moving into college and being distributed across an increasing number of choices, so therefore, you are not going to increase the number of good black students going into any one area until you increase the overall size of that pool of students moving in.

We have to have loan forgiveness clauses in loans for those who teach. That is essential as an incentive. We have got to have incentives to colleges and universities to invest their resources in recruting and keeping students in programs.

Those two strategies I would advocate as essential to changing this condition.

Representative SCHEUER. And I suppose increases in pay.

Ms. HATTON. Of course. The working conditions include pay, at the top of the list.

Representative SCHEUER. If we are talking about improving the working conditions and increasing the pay to make a teaching career competitive with the many alternatives that now exist that may not have existed in times past, and if we are talking about empowering teachers to participate in decisionmaking about how the schools are run, then do we have the right to say OK, if we are going to increase pay and improve working conditions, empower you to engage in the decisionmaking process, we want to establish some standards—to establish some real accountability based on results.

Ms. Futrell, would you consider this kind of a linkage, using your phrase, "punitive"——

Ms. FUTRELL. By "punitive," I mean things like merit pay where we would only reward 5 or 10 percent of the teachers and not pay a decent salary to the other 85 or 90 percent.

When I talk about "punitive," I am talking about coming in and testing teachers who have already demonstrated their competency.

Representative SCHEUER. Ms. Futrell, there are a heck of a lot of teachers in this country who have not demonstrated competency, who are still in there teaching, and Ms. Hernandez talked about that.

Ms. FUTRELL. Let me just say I don't think a test is going to prove whether or not the teachers are performing. They gave the test in Texas; 98, 99 percent of the teachers in Texas, which is where Ms. Hernandez lives, passed the test.

Ms. HERNANDEZ. It was a terrible test.

Representative SCHEUER. But if you look at the results, they really were not teaching effectively.

Ms. FUTRELL. That did not demonstrate whether or not they were actually good teachers.

We believe that teachers should be held accountable. We believe the best way to do that is through onsite evaluations.

First of all, you make sure the teachers entering school systems are competent. That means that they have demonstrated their competency through grade point average, student teaching, and passing a test. So when they are hired by Mr. Murphy or any other superintendent, they have demonstrated that.

Representative SCHEUER. Hold on. How about some kind of measure of accountability in terms of the progress that their students make?

Ms. FUTRELL. When they get into the classroom, the best way to measure performance, we believe, is through an onsite evaluation.

Representative SCHEUER. How about tests?

Ms. FUTRELL. I personally don't believe that you can hold teachers accountable for student performance. Let me give you an example. As I indicated earlier, I work with at-risk children. I work with children who do not want to be in school.

My job was not only to keep them in school, but to give them an education. I thought I did a pretty good job; 95 percent of them stayed. These were kids who had been identified as potential dropouts. I kept 95 percent of them in the school.

But the strategies and the things that I did, these kids would not measure up to someone in advanced placement class.

Representative SCHEUER. No. But they probably would measure up very well compared to the kids the year before, before you came there.

And any accountability that was based on the progress of the kids compared to the last year or the year before would have shown you up to be an excellent teacher and an outstanding success, based on the progress those kids were making. Now, would you object to those kinds of measures?

Ms. FUTRELL. I would object to teachers being paid based on student performance. I would not object to teachers being held accountable for things over which they have control. I do not object to that at all.

Representative SCHEUER. Do you object to a classification such as master teacher, where a teacher would get paid significantly more if he as she could demonstrate education success in stimulating learning progress?

Ms. FUTRELL. Let met state very clearly what our position is. The National Education Association introduced the whole concept way back in the 1960's. We were the one who put it out. It did not work.

So this idea is not anything that is new. The so called reforms have taken an NEA idea and rehashed it. We decided in 1984 when we voted on our reform package that we would do several things regarding the whole concept of differentiated staffing, master teacher, merit pay.

First of all, teachers need to have the base pay raised. They are miserably paid across the board. So you do that. If you want to talk about differentiated staffing, then you sit down with the teachers as soon as that concept is put on the table and you work with them to define what do you mean by a differentiated staffing plan, a master teacher plan, a merit pay plan.

That is the position of the NEA and has been for some time. When I supported the Carnegie Report, I indicated we had reservations. Our reservations would be that teachers had to have input into any kind of plan that we put into place.

Representative SCHEUER. What I am suggesting is that if our society and if school boards and if State legislatures are willing to empower teachers to participate in policymaking, to participate in decisions about curriculum, if we are willing to enhance their salaries, if we are willing to enhance their working conditions, would they be willing to accept accountability based on the demonstrated progress of kids under their supervision?

Ms. FUTRELL. Teachers in this country are willing to sit down with the appropriate people and define what that accountability will be like. What we are opposed to is people coming in and saying this is how you are going to be held accountable. But sit down and work with us to define it.

Representative SCHEUER. You should be part of the process by which that is done.

Governor RILEY. It was done in my State, Mr. Chairman, with the teachers.

Ms. HATTON. I just want to make a quick comment that the master teacher concept embodied in the work of the National Board and embodied in the Carnegie Task Force Report is a new role, a restructuring of the working environment for teaching which requires that the teachers would be involved in the setting of standards and in the operation of the educational program, and which requires that they would have a different preparation for that task.

I just wanted to emphasize here that what we are supporting from the National Board is the master teacher concept that is quite different from the kind of lead teacher we have known in the past where we did not make those changes in the working environment for teachers to allow the empowerment of the teacher in that role.

Ms. **Futrell**. And Carnegie very correctly said in the report and has emphasized all the way through that when that program is put in place, that teachers must be involved at the local level and at the State level. And I think Carnegie made the correct decision by saying that.

Representative **Scheuer**. Mr. Murphy.

Mr. **Murphy**. I just want to say, Mr. Chairman, you are right on target. We should identify the outcome in a certain school and pay people accordingly.

Representative **Scheuer**. Ms. Hernandez.

Ms. **Hernandez**. Mr. Chariman, we have got to start somewhere holding someone accountable for what is not happening in the schools. Let me give you an example.

Representative **Scheuer**. Do we hold teachers accountable for what is happening in the schools? Can we told teachers accountable for the lack of progress of a whole class, no matter what the condition of that class on the opening day of school?

Ms. **Hernandez**. Well, they are hired to teach. Bottom line, if they are not teaching and the students are not learning, then something is not happening.

Let me give you an example. There is a particular teacher that I have in mind in our district who everyone knows as a good teacher. The good teachers know she is a bad teacher. The parents know she is a bad teacher. I know she is a bad teacher.

Representative **Scheuer**. And the kids know she is a bad teacher.

Ms. **Hernandez**. And the kids know she is a bad teacher and they don't want to go to her.

What I have done, I went back for over 6 years and checked her students out on a longitudinal scale to see how they did on the national test, nationally standardized test. Every year they lost 60 points when they went to this teacher, and I could not use that information to fire her. She is still teaching. Well, she is still there.

Now, that has to stop. That has to stop.

Representative **Scheuer**. It says in the newspaper this morning, on the front page of the New York Times, that the Chinese are about to adapt our civil service system. I wonder if they know what they are getting into.

Ms. Futrell, did you want to react to anything that was said in the last minute or two?

Ms. **Futrell**. The only people you are talking about holding accountable are the teachers. What about the other people? Not to pass the buck, but what about the other people?

Representative **Scheuer**. Who are you speaking of?

Ms. **Futrell**. What about administrators?

Representative **Scheuer**. Absolutely.

Ms. **Futrell**. What about policymakers? What about school boards? What about the parents? What about everybody else?

Mr. **Murphy**. If I don't do my job, I get fired.

Representative **Scheuer**. Excuse me. I didn't get that.

Mr. **Murphy**. I said if I don't do my job, I get fried. That's accountability.

Ms. **Futrell**. And if teachers don't do their job, they should be removed. That is a position we have held for 20 years. But I think that you were talking earlier about simply blaming people and passing the buck. That is not going to solve the problem.

What we are saying very clearly is that teachers should be held accountable for those things over which they have control. They should be directly involved in redesigning, restructuring schools, setting up any kind of accountability system.

To do less than that is not to give teachers the autonomy and to treat them as professionals, and that is what I think they are.

Representative **Scheuer**. Of course they are, and we ought to treat them more like the professionals that they are in terms of involvement in decisionmaking, salaries, working conditions, that whole area.

Let me ask one more question. Do any of you see any merit in the concept of the year-round school system? Also, is there a Federal role in helping school systems that think that a summer education experience of some kind would be beneficial to their kids, especially disadvantaged low-income kids from disadvantaged homes?

Is there any Federal role that you can see that would help local school systems sort their way through the thicket of problems that come up when you talk about a year-round school system and particularly the challenge of working out some kind of consensus with the teachers' unions?

Ms. **Futrell**. This teachers' union is not opposed to it. We do not have a position in opposition. Basically what we have said is, that we should not simply add time for the sake of adding time. How are we going to utilize that time? How are we going to help children? How will teachers be involved?

Basically what we have said is if you are going to implement the program, you should involve teachers in designing the program and it should be designed to help children improve educationally.

Representative **Scheuer**. We take both of those points as an absolute given. An absolute given.

Ms. **Futrell**. That is not always the way it happens, though.

Representative **Scheuer**. It certainly should be. And in any congressional intervention to help school districts work their way through the problems involved in establishing a year-round school system, perhaps some of it voluntary, it is an absolute given. It is the quintessential precondition that teachers are involved in designing such programs.

Ms. **Futrell**. I am glad to hear you say that. I think the role that the Federal Government could play is one of providing leadership, providing information, research, regarding whether school districts should move in that direction and, if they plan to do so, how should they put together a program.

In Prince William County, where they had the regular school year of 190 days; then they had 210; and then they had 230. And the parents decided in which program their children would be enrolled.

That program was in existence for 10 years. The parents, about 2 years ago, decided that they didn't want that anymore. They didn't like it. And so they asked the school district to shut it down.

Maybe that is a source of information that you could use to find out if it really worked. Did children learn more, and what were the pros and cons? But I think basically a position of how would you implement such a program, what would be the pros and cons, and provide that kind of leadership and research.

Representative SCHEUER. Any other reactions to the concept of year-round school system and the Federal role?

Mr. MURPHY. I think if you gave grants similar to your magnet grants and made them competitive, then some very good programs would surface and they could serve as models for the Nation to begin to see and feel comfortable.

Ms. HATTON. We haven't been able to hold the present system accountable when it comes to poor children and under-prepared children, and so I don't know if we should tinker around with all kinds of managerial alternatives to using facilities and that kind of thing, unless we are going to finally confront the problem of making that system and our current system accountable for student progress.

Representative SCHEUER. Amen to that. Yes, Governor Riley. Briefly, please, Governor.

Governor RILEY. Less than briefly, I would want to say about the Federal role, we get all hung up in various aspects of specifics. I think, just as we try to do in South Carolina, if the Federal Government, the President and the Congress decided and believed that education of the children of this country, quality education across the board for all children was important enough, I think that the response would be made, and the people and the leadership and the partnerships could be developed, and it would happen.

It is just as important as having the strongest national defense and other major national goals and decisions that have been made, and I don't think that decision has been made. I don't think that commitment is here. There is a lot of talk about it, but I don't think it is here.

Ms. HERNANDEZ. Mr. Chairman, I would love to have my school open year-round, all day, in the evening, whenever I can get children, whenever I can get communities in.

The role of the government, I would hope that it would be to prioritize those schools that are failing, and give them some priority and give them some alternative to be able to try new things and see where we can go. Obviously we can only go up.

Representative SCHEUER. This has been an exemplary panel. I am terribly grateful to you for this truly stimulating and thoughtful panel. You really ought to feel that you have made a contribution to congressional thinking this morning. I am terribly grateful to you. This hearing is adjourned.

Oh, let me just say one thing at this point before I forget. I wish to pay tribute to Marc Tucker of the Carnegie Forum on Education and the Economy for helping to design these hearings and to populate the panels. He has done an outstandingly imaginative and thoughtful job in helping us think through the entire set of policy issues surrounding these hearings.

And I also wish to thank Debbie Matz of the Joint Economic Committee staff for the superlative way in which she has worked arm-in-arm with Marc to make these hearings a reality.

[Whereupon, at 1:05 p.m., the subcommittee adjourned, subject to the call of the Chair.]

[The following information was subsequently supplied for the record:]

December 4, 1987

Congressman James H. Scheuer
Chairman, Subcommittee on Education and
Health of the Joint Economic Committee
Room G01
Dirksen Senate Office Building
Washington, D.C. 20510

Re: Guaranteeing Graduates

Dear Congressman Scheuer:

The attached article from the Washington Post was very interesting. Assuming the article is accurate, I felt compelled to write, partly for your benefit and partly to let you know that the article and the testimony offered by Mr. Murphy are not accurate.

St. Mary's County is not as large as Prince George's County. By national standards, however, it ranks in the top one per cent. While we do not get the publicity heaped on other school systems, we feel we do a fairly good job in a community that is among Maryland's poorest. Despite that fact, we send over a third of our graduates to college, have one of the state's lowest drop-out rates, have reduced the incidences of drug and alcohol on school property to one-fifth of what it used to be, possess graduation requirements among the highest in Maryland, established eligibility standards for participation in non-classroom activities that are among Maryland's toughest but fairest, and have dramatically improved the quality of school performance to an unprecedented level as measured by the quality of student coursework. Last spring we were recognized by the Kennedy Center through AASA of having one of the best cultural arts programs in America.

Moreover, we aren't studying or talking about guaranteeing graduates. We are doing it. We aren't considering implementing it with the class of 1989. It is in place now. It is a condition this year's seniors will take with them next June. Our plan is deliberately simple, apparently more in line with those of Mr. Perron of the Carnegie Foundation for the Advancement of Teaching. We are telling employers that our graduates have acquired the basic literary and arithmetic skills necessary to make them profitably employable. If not, the employer only has to let us know and we'll offer the employee one of a number of options to get up to speed. It is a clearly understood, no fluff, "bumper to bumper" warranty.

St. Mary's graduate guarantee is not merely the first in the Washington area. To our knowledge it is the first on the eastern seaboard. When we announced our program last August we notified all the superintendents and major newspapers in Maryland, including the Post. We received no interest or inquiries from the media.

St. Mary's County is not the only school system in the shadows of the spotlight that are doing outstanding things for students. It sometimes becomes frustrating, if not irritating, trying to get decision and policy makers to look beyond the glitz of those school systems with media or promotional arms and recognize those school boards and communities that make things happen. We aren't great. But we are darned good. We are enormously better than we were 10 years ago. We are getting better by the day. We are doing it with drive and creativity, not money, though more money would help greatly.

There is much more. You can be sure we would be more than happy to share whatever we can to assist you in any way possible as you struggle with difficult and weighty issues.

I thank you in advance for your time and indulgence.

Respectfully,

Larry L. Lorton

Larry L. Lorton
Superintendent of Schools

LLL:nes

Attachment

cc: Board of Education
Representative Roy Dyson
Subcommittee Members (6)

(From the Washington Post)

# P.G. to Guarantee Its Graduates

## *Free Courses Vowed for Students Lacking Job Skills*

By Leah Y. Latimer
Washington Post Staff Writer

Prince George's School Superintendent John A. Murphy told a congressional panel yesterday that the school system plans to back up its claims of improving achievement by guaranteeing that its high school graduates are ready to hold jobs.

If graduates are found lacking by employers, Murphy said, the school system will re-educate them free of charge.

"If we haven't done the job, then we'll redo it at our own expense," Murphy told a subcommittee of the [illegible] Education Committee that is examining the state of the American work force.

The idea of a guaranteed education has been employed in California and Michigan, but Prince George's is the first school system in the Washington area to offer the guarantee to employers. The idea was spawned locally from a study by a school business advisory council concerned about the quality of applicants in the Prince George's job pool.

The educational guarantee is the latest of a variety of tactics and ventures that schools and businesses have undertaken together to improve education and provide businesses with better-prepared applicants.

Murphy said the county expects to issue the "guaranteed diploma" to all students in addition to the regular high school diploma. The first certificates most likely will be issued to 1989 graduates.

The guaranteed diploma would list specific skills apart from those covered by regular graduation requirements, which county students should have mastered.

Louise F. Waynant, associate superintendent for instruction, said officials and area business leaders are drafting a list of skills considered vital for all employes, whether they are working in fast-food restaurants or high-tech firms. Skills included on the list are not the typical vocational skills of typing and accounting but include such "career skills" as computing simple interest, translating data from charts and graphs and analyzing inconsistencies in written material.

"We'll give [the] student a guaranteed certificate that will tell the employer that the youngster is ready to go to work," Murphy said.

Under the current plan, any business could use those specific skils as a checklist to evaluate new employes. If a Prince George's graduate comes up short in any area, the county would provide free evening or weekend classes through its Adult Education Program, so the students can continue working. Courses usually cost about $30 apiece.

Throughout the area and nationally, as more schools opt for providing special diplomas or seals that certify students in basic skills to advanced achievement, some of the value of the regular high school diploma has come into question.

BEST AVAILABLE COPY

# P.G. to Guarantee Its Graduates

PRINCE GEORGE'S, From B1

High school graduates receive diplomas based on a general completion of a set of standards involving the kind and number of courses a student has taken. State-mandated minimum competency tests, such as those in Maryland, are meant to assure but do not guarantee real mastery.

Prince George's schools spokesman Brian J. Porter said the county plan "is a step above what the state requires." Under state regulations, he said, "You could graduate with straight Ds."

Still, some sectors of the education community take a skeptical view of separate guarantees.

"There's a general understanding that a [high school graduate] will be able to read and write and speak within a reasonable level of fluency. I'm not sure one needs to add pieces to it," said Vito Perron, vice president of the Carnegie Foundation for the Advancement of teaching and an expert on high school education.